DEC 16 1998

0629-E-10 I53.59/2:C35/V.2

United States Department of the Interior
Bureau of Land Management

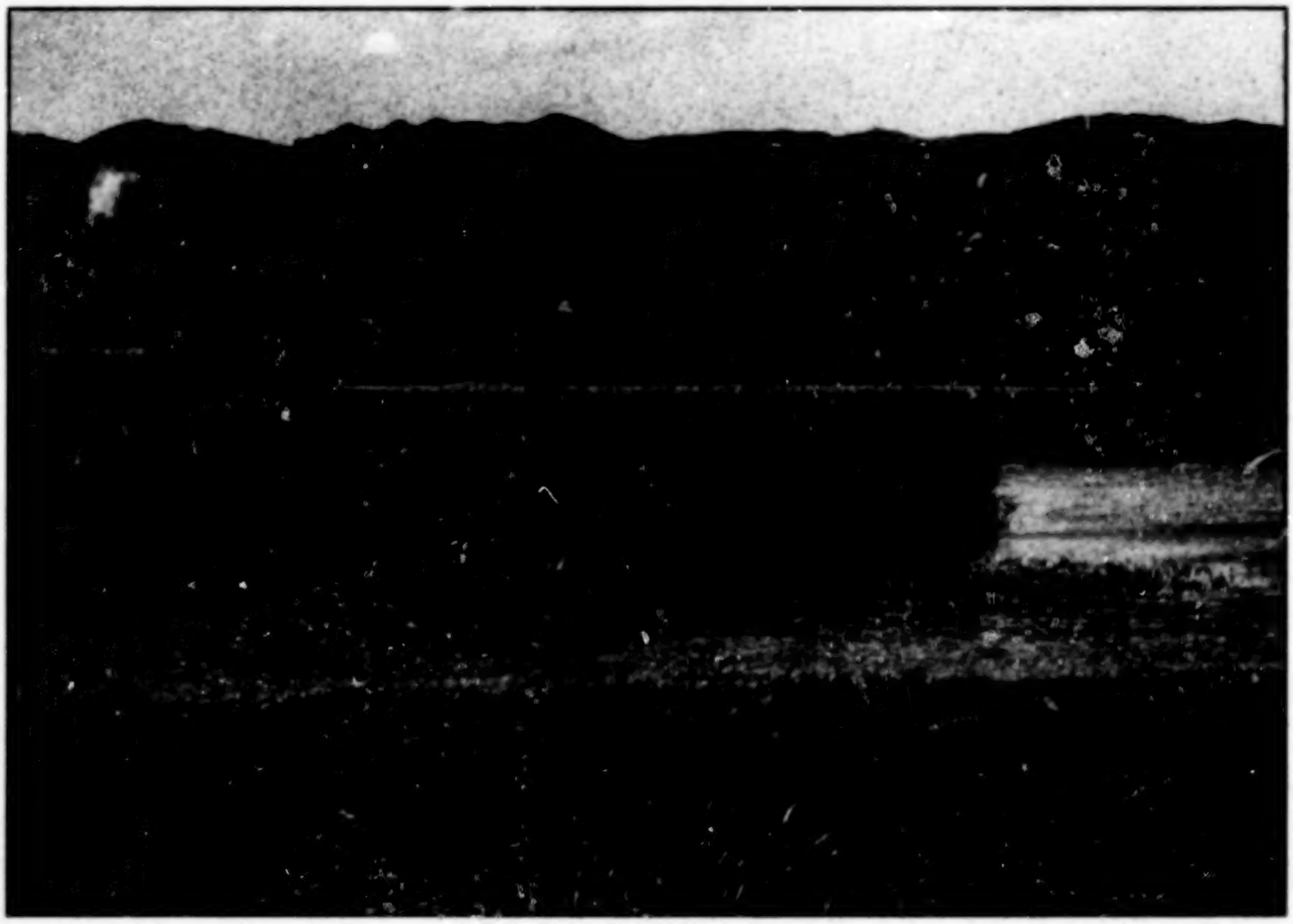
Challis Resource Area
Upper Columbia - Salmon Clearwater Districts
Salmon, Idaho

October 1998

Challis Resource Area

Proposed Resource Management Plan and Final Environmental Impact Statement

Volume 2 (of 2) - Chapters 3 through 5, Appendices, References, Index



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Chilly Slough Wetland

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Chapter 3
Affected Environment

Herd Creek Entering the East Fork Salmon River

Introduction.

Chapter 3 describes the existing condition of the physical, social, and biological environment in the Challis Resource Area (RA). These environmental descriptions are primarily based on Resource Area Profiles (RAPs) completed during the Management Situation Analysis phase of Resource Management Plan (RMP) development, when existing data on resource occurrence, level of use, condition and trend, and potential to yield desired products were assessed. (RAPs are available for review at the Salmon Field Office, Highway 93 South, Salmon, Idaho.) Appendix L, Item 1 (pp. 668-670) lists the majority of field studies, monitoring data, and similar information used to compile a description of the Affected Environment. Additional sources are cited in the text where appropriate, and complete references are provided in the *References* section (pp. 671*ff*).

Chapter 3 begins with an overview of geography, topography, and climate. The chapter then discusses the Challis RA programs/resources in alphabetical order. Each description includes a summary of relevant law, regulation, and policy and a detailed discussion of the program/resource's existing condition. An expanded discussion of the most relevant laws and executive orders is provided in *Appendix E, Item 1*, pp. 638-643.

General Description of the Challis Resource Area.

Geography/Topography

The Challis Resource Area contains approximately 792,567 surface acres of public land managed by the Salmon Field Office (see *Map 24: General Location*). The RA is divided into three general areas: the Pahsimeroi Valley, the Salmon River and East Fork Salmon River drainages in the Challis area, and the Mackay area. The Mackay area and Pahsimeroi Valley are separated by the Lost River Range, which contains the point of highest elevation in Idaho (see *Map 25: Geography and Principle Drainages*).

The Salmon River and Big Lost River are the principal drainages within the RA. The Salmon River, a major tributary to the Snake River (see *Map 1: Anadromous Fish Migration*), flows roughly south to north through the western part of the RA. Most of the RA is in the Salmon River watershed. The Thousand Springs Valley is part of the Big Lost River watershed, and a small area in the southeastern edge of the RA is in the Little Lost River watershed. The East Fork Salmon River and Pahsimeroi River are major drainages contributing to the Salmon River. All of the river basins are contained within the Columbia River Basin (see *Map 1: Anadromous Fish Migration*). The Salmon River flows through a narrow "V" shaped valley flanked by cliffs, rock outcroppings, and moderate to very steep terrain. Tributary drainages vary in relief depending on the dominant geological parent materials. Glacial, fluvial, and alluvial deposits occur on the bottom of all major stream valleys. These deposits filled the valleys and were downcut by the streams during the retreat of the last glaciers, creating the present "V" shaped valleys. The steep, incised character of the principal drainages limits human access and influences livestock and wildlife utilization patterns. The general relief of the area varies from nearly flat on the valley floors of major drainages, to nearly vertical cliffs on the mountains.

A general aspect cannot be given for the RA, but exposure does play an important role in utilization patterns. South and west facing slopes have the earliest spring grass and tend to be drier, with less vegetation. North and east facing slopes retain snow longer in the spring than other aspects and tend to be cooler and wetter. Elevations range from about 4,600 feet at Hat Creek to 10,010 feet at the top of Jerry Peak. Elevations generally rise going upstream along the Salmon River from the north boundary of the Challis Resource Area to the south and west boundary. Elevations generally fall from Willow Creek Summit (the divide between the Salmon River and Big Lost River drainages) to the southeast boundary of the Resource Area along the Big Lost River. Elevation differences account for a growing season which ranges from 60 to 100 days from the highest to the lowest points of the RA.

Climate

The climate of the Challis Resource Area is influenced primarily by maritime air carried eastward on prevailing westerly winds. General climatic characteristics are abundant sunshine, low humidity, and high evaporation. The major precipitation source, particularly for winter storms, is the Northern Pacific Ocean. In the summer, however, most of the thunderstorm activity is caused by moisture-laden air originating from the south, off the Pacific coast of Mexico.

Average annual precipitation in the Challis Resource Area varies from about 7.5 inches (reportedly the lowest in Idaho) at Challis, Idaho (elevation 5,200 feet) to 25 inches at the southern end of the RA near Jerry Peak (elevation 10,010 feet), with an estimated average of 10 to 15 inches. Drought cycles are typical of the Intermountain West, and precipitation amounts during these drought periods can be less than 50% of the average annual precipitation. These drought cycles affect the growth and vigor of plants and animals, and limit free water availability from surface water sources such as springs, creeks, and seeps.

Precipitation in the Challis area occurs primarily in the spring and fall. April, May, and June are the three wettest months, with 37% of the average annual precipitation accumulating during this period. June is the wettest month, with about 16% of the average annual precipitation. January, February, and March are the three driest months, with about 16% of the average annual precipitation. These figures vary with elevation, but indicate general precipitation trends in the RA. High intensity localized convective thunderstorms are common in the RA during spring and summer months, especially at higher elevations, and will vary the precipitation amounts from year to year in localized areas.

Spring rainfall is generally of low to moderate intensity and long duration. Infiltration and percolation are greater than during other seasons. These rains initiate plant growth. The amount of precipitation occurring in the spring is the primary factor determining forage production throughout the grazing season.

Summer rainfall comes mainly in the form of high intensity, short duration thunderstorms. This

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precipitation often exceeds the soil infiltration capacity in many areas, causing overland flow and flash flooding. The concurrent runoff and soil movement often physically damage grasses and forbs. Since summer precipitation is usually sparse and sporadic, forage plants in the lower elevations of the RA are dried up by the end of June, in the mid-elevation areas by mid-to-late July, and in the higher elevation areas by mid-August.

Fall precipitation occurs in September and October, mostly in the form of rain, although wet snow and sleet storms are not uncommon. If temperatures during these months are above normal, additional leaf growth on grasses may occur.

Winter precipitation within the RA comes primarily in the form of snow. Records from a weather station at May, Idaho indicate that approximately 27% of the annual precipitation at the lower elevations of the RA falls as snow during the five months from November through March. As elevation increases, a greater percentage of the annual precipitation falls as snow (approximately 39% in the 20 inch precipitation zone). Snow depths vary considerably throughout the RA. An average low of seven inches occurs at Challis, Idaho, with 50 to 60 inches occurring at the highest elevations. Average annual snowfall at the lower elevations is 27 inches, but snow generally does not accumulate to a significant depth due to melting and/or sublimation between precipitation events. At higher elevations snow accumulations of four to six feet are common and will persist into May, especially in drifted areas. This winter precipitation replenishes ground water supplies and soil moisture prior to the spring growing season. Winter moisture, which infiltrates and percolates slowly and gradually, is especially critical in coarse-textured droughty soils, for it is the primary source of effective precipitation for such soils. The persistence of snowdrifts on the high-elevation divides until early summer delays forage growth at these locations.

Rain-on-snow events occur to some extent almost every year. Fall and early winter events (before any significant snowpack has accumulated) do not generally produce significant consequences, although they can produce flows which are higher than would be expected from a given rainfall event. Late winter or early spring rain-on-snow events seem to occur less frequently. They can potentially cause very significant flow events to occur. However, the flow events generally do not cause much surface erosion or severe channel erosion. Late winter or early spring rain-on-snow events can also have a lasting effect on water quantity, by very rapidly releasing snowpack which would have recharged groundwater supplies and helped maintain base stream flows.

Average monthly temperatures in Challis, Idaho range from a high of 68 °F in July to a low of 18 °F in January. During winter an extreme low of -33 °F may occur, and in summer the high may reach 103 °F. Moderate to strong winds in winter can cause a windchill of as low as -25 to -75 °F in some portions of the RA. Extremely low and high temperatures occur nearly every year, but do not persist for long periods of time. Daily freezing and thawing occur during late fall and early spring as temperatures vary from daytime highs in the fifties and sixties to night-time lows in the twenties and thirties. The frost-free growing season generally averages less than 100 days on the lower elevation agricultural lands and may be as few as ten days at the highest elevations in the RA. Extended periods of extreme cold have caused complete icing-over and winter flooding of some rivers and creeks. Ice build-up can also cause some bank damage as the ice breaks away from the banks. The extent of damage depends on the condition of vegetation on those banks.

Prevailing winds aloft are generally from the west. Surface winds are influenced by topography and may blow either up or down drainages. In the winter months persistent temperature inversions may develop in valleys as high pressure builds over the area. Nighttime inversions in summer and fall may also develop due to the large diurnal and elevational temperature differences. Vegetation is affected by dry winds in the spring, which increase evaporation and reduce the available moisture needed for plant growth. Relative humidity in the Resource Area during the growing season can be as low as 5 to 20%.

Air Quality.

Law, Regulation, and Policy

The Clean Air Act of 1963 contains national ambient air quality standards which set limits on the total amounts of specific pollutants allowed in the atmosphere. The Clean Air Act also gives authority to the states to set more stringent standards, with which the BLM must comply. Congress established a system for the Prevention of Significant Deterioration (PSD) through the Clean Air Act Amendments of 1977, under which areas are classified into PSD Class I, II, or III. PSD Class I areas include National Parks and certain Wilderness Areas; virtually any air quality degradation in these areas is considered significant. In PSD Class II areas, moderate air quality deterioration associated with moderate, well-controlled industrial and population growth is allowed. The greatest amount of impact is allowed in areas classified as PSD Class III.

Affected Environment

Under the Clean Air Act (as amended, 1977), all BLM-administered lands were given PSD Class II status. Challis Resource Area lands will continue to be managed as PSD Class II unless they are reclassified by the State of Idaho as a result of procedures identified in the Clean Air Act (as amended, 1977). Wilderness Study Areas (WSAs) within the Resource Area (see *Map 42: Wilderness Study Areas*) are also managed under the non-impairment criteria of PSD Class II. PSD Class I areas which could potentially be affected by BLM management of the Challis Resource Area include Yellowstone and Grand Teton National Parks and the Red Rock Lakes, Selway-Bitterroot, Craters of the Moon, and Sawtooth Wilderness Areas.

Air quality in the Challis Resource Area is generally believed to be excellent, because of the remoteness of the RA's geographical location in east-central Idaho. Some air quality degradation occurs within the Challis Resource Area, but it is usually seasonal and short-term. None of the Resource Area is classified as a nonattainment area (see *Glossary*, p. 177).

Occasionally in the spring and summer months, short periods of smoke haze occur when forest or farmland fires are burning locally. Smoke haze can also develop when large forest or brush fires are burning in northern Idaho, Montana, Nevada, or California. Smoke from such fires is

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borne on the prevailing winds, and results in hazy conditions for a few days to several weeks.

In the winter months air inversions sometimes develop in the valleys. Valleys with larger populations (*e.g.*, Salmon or Challis, Idaho) can experience an increase in smoke haze from wood burning heaters and other urban pollutants. During an inversion the air movement stagnates and prevailing breezes do not disperse the pollutants. Inversions can last from one to many days, during which time a decrease in air quality occurs.

Other minor pollutants include smoke from ditch, slash, and garbage burning, and dust from vehicular traffic on unpaved roads. Many local residents burn their fencerows and ditches once or twice annually in the spring and fall. This burning is not controlled or regulated, except during the fire season, when a burning permit is required by the Idaho Department of Lands. Residents of Custer County are required to burn trash at designated garbage dumps and are discouraged from burning animal carcasses. Reported violations are investigated by the Idaho State Health Officer and County Attorney. Dust pollution can be locally quite heavy on the more frequently traveled unpaved roads. However, these pollutants rarely persist and are dispersed by the prevailing winds. Locally higher concentrations of pesticide vapors are sometimes evident following noxious weed spraying. These pollutants are very localized and quickly dispersed.

Livestock production is a prevalent activity in the Challis Resource Area. However, methane production from livestock has not been identified as a significant air quality concern. During the grazing season, when most livestock are dispersed on Federal lands, there are no apparent or detectable increases in methane concentrations. During winter months, when livestock are concentrated on private lands and air inversions occur, there may be localized increases in methane concentrations. Any methane concentration increases which may occur have not been identified as an air quality problem either locally or regionally.

Areas of Critical Environmental Concern.

Law, Regulation, and Policy

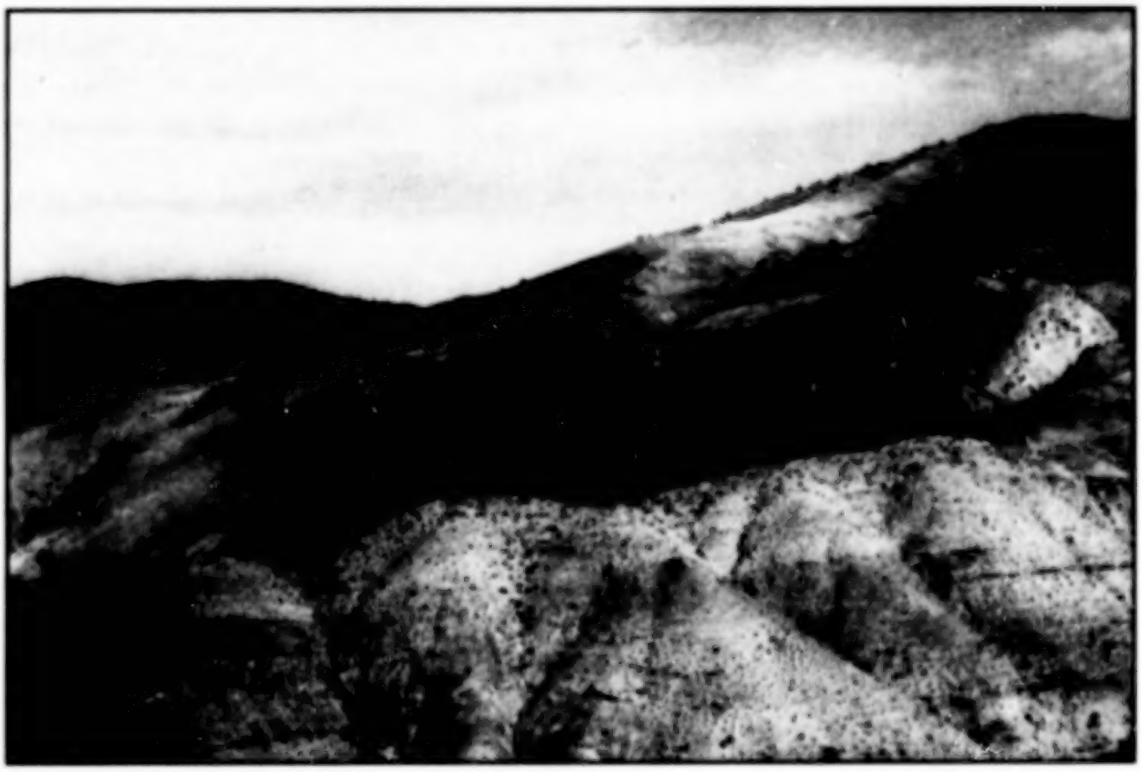
The Federal Land Policy and Management Act (FLPMA) (43 U.S.C. 1701 *et seq.*) provides for Area of Critical Environmental Concern (ACEC) designation and establishes National policy for the protection of public land Areas of Critical Environmental Concern. Section 202(c)(3) of FLPMA mandates the BLM to give priority to the designation and protection of ACECs in the development and revision of land use plans. BLM Manual 1613 describes the process followed to nominate ACECs and screen areas for their suitability for ACEC designation. The BLM's planning regulations (43 CFR 1610.7-2) establish the process and procedural requirements for designating ACECs in Resource Management Plans and RMP amendments.

Affected Environment

The purpose of an ACEC designation is to "highlight" values, resources, or conditions that need management and/or protection (see *Glossary*: Area of Critical Environmental Concern). While an ACEC may emphasize one or more unique resources, other existing multiple-use management can continue within an ACEC as long as the uses do not impair the values for which the ACEC was designated. Some ACECs in the Challis RA also contain Research Natural Areas (RNAs) (see *Glossary*). RNAs are ACECs or portions of ACECs designated for study of some natural, pristine, or unique characteristics of an area. RNA designation requires nomination and concurrent designation through the ACEC designation process.

A land use or activity plan is the principle means for prescribing management direction for each ACEC/RNA. The *Final Plan Amendment and Environmental Assessment* for the Challis, Mackay and Ellis-Pahsimeroi MFPs (December 21, 1987) prescribes specific management for the existing ACECs and RNAs in the Resource Area. The Thousand Springs/Chilly Slough Habitat Management Plan, approved in 1989, also describes management for the Thousand Springs ACEC. No other specific ACEC activity plans have been prepared.

The Challis Resource Area has eight formally designated ACECs, which include 5,975 acres of Research Natural Areas (see *Map 3-1: Existing ACECs General Location*). *Table 3-1* summarizes the acreage, values, nomination, condition, and trend of those ACECs.



Malm Gulch ACEC

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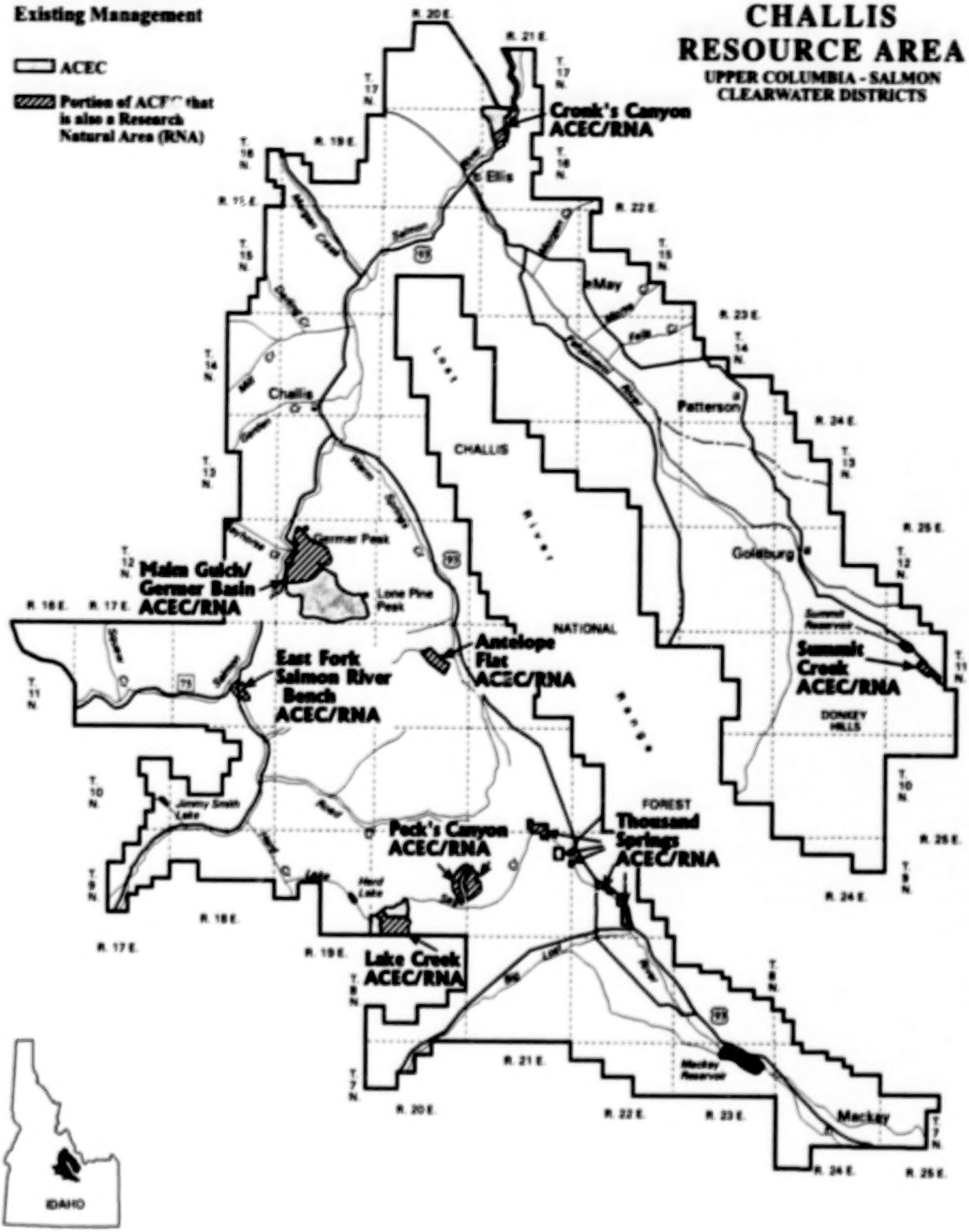
EXISTING AREAS OF CRITICAL ENVIRONMENTAL CONCERN (ACECs) Map 3-1



Note: Existing management applies to BLM public lands only

BLM, Idaho State Office, Mapping/GIS, 1998

Table 3-1: Formally Designated ACECs in the Challis Resource Area

ACEC	Acreage	Values	Nomination[1]	Condition[2,3]	Trend[3]
Malm Gulch/Germer Basin	7,823	pristine vegetation rare plants paleontological	INACC/TNC	good	stable
Antelope Flat	588	pristine vegetation	INACC/TNC	good	stable
Peck's Canyon	782	pristine vegetation	INACC/TNC	excellent	stable
East Fork Salmon River Bench	78	pristine vegetation riparian	INACC/TNC	excellent	stable
Cronk's Canyon	1,496	pristine vegetation bighorn sheep	INACC/TNC	good	stable
Lake Creek[4]	2,054	pristine vegetation wildlife	INACC/TNC	good	stable
Summit Creek	304	vegetation riparian fisheries recreation rare plants	INACC/TNC	good	stable
Thousand Springs	896	wildlife waterfowl habitat	INACC/TNC	fair	upward

[1] INACC = Idaho Natural Areas Coordinating Committee; TNC = The Nature Conservancy.

[2] Refers to the condition of values managed.

[3] Condition and trend estimates are based on the judgement of BLM staff specialists.

[4] The Challis Proposed RMP would incorporate the Lake Creek ACEC and RNA into the Herd Creek Watershed ACEC/RNA (see PRMP, ACECs, p. 34).

A more detailed description of the eight existing ACECs is contained in the *Final Plan Amendment and Environmental Assessment* for RNA/ACECs (December 21, 1987), which is available for review at the Salmon Field Office.

Proposed ACECs

Table 3-2 lists the seven proposed ACECs which were nominated and evaluated by an interdisciplinary team of BLM staff specialists and managers to determine if they (a) met ACEC relevance and importance criteria and (b) should be proposed for ACEC designation in the Challis Proposed RMP (see PRMP, ACECs, pp. 29-39). An area was determined to meet relevance criteria if it contains one or more of the following: (a) a significant historic, cultural, or scenic value; (b) a fish or wildlife resource; (c) a natural process or system; or (d) a natural hazard. The value, resource, system, process, or hazard must have substantial significance and values in order to satisfy the "importance" criteria. This generally means that the value, resource, system, process, or hazard is characterized by one or more of the following: (a) it has more than locally significant qualities which give it special worth or meaning compared to any similar resource; (b) it has qualities or circumstances that make it fragile, sensitive, rare, irreplaceable, exemplary, unique, endangered, threatened, or vulnerable to adverse change; (c) it has been recognized as warranting protection in order to satisfy national priority concerns or to carry out the mandates of FLPMA; (d) it has qualities which warrant highlighting in order to satisfy public or management concerns about safety and public welfare; or (e) it poses a significant threat to human life and safety or to property (BLM Manual 1613.1).

Table 3-2: Size, Values, and Relevance and Importance of Proposed Areas of Critical Environmental Concern (ACECs)

Name	***Size***	***Values***	***Relevance and Importance***
Dry Gulch	ACEC/RNA: 539 acres	Populations of *Thelypodium repandum*, a sensitive plant species, and several populations of two rare/sensitive Challis endemic plant species.	A population of *Thelypodium repandum*, a sensitive plant species, is present in Dry Gulch, along with other unusual Challis endemic plant populations (*Astragalus amblytropis* and *A. aquilonius*). The thelypody population is on the fringe (northern-most edge) of the species distribution, occurring on different substrate and with different associated species (*e.g.*, Salmon River wild rye) than the populations found in the center of the species distribution. It is likely that this population is genetically different from other populations to the south. Stands of Salmon River wild rye, *Elymus ambiguous salmonensis*, a species endemic only to the Challis area in close proximity to the Salmon River corridor, are represented on the site.

Name	***Size***	***Values***	***Relevance and Importance***
Sand Hollow	ACEC/RNA: 3,332 acres	Populations of *Thelypodium repandum*, a sensitive plant species; several populations of rare or sensitive Challis endemic plant species; fragile soils; and a geologic area of interest.	Populations of these Challis area endemic plant species in the Sand Hollow area are representative of typical populations occurring within the East Fork watershed: populations of *T. repandum* (a sensitive plant species), and populations of *A. amblytropis* and *A. aquilonius* (rare/sensitive Challis endemic plant populations). The area identified contains two known population areas and additional habitats that may be suitable for these species. Soils in the Sand Hollow watershed are fragile, requiring special management consideration. At the upper end of the watershed are the Paint Pots, an assemblage of bright, multicolored outcroppings of Challis volcanic material that are unique to the area.
Pennal Gulch	ACEC: 5,832 acres	Populations of *Thelypodium repandum*, a sensitive plant species; other rare/ sensitive plants; unique riparian area; unique and representative vegetation of the area.	Populations of *T. repandum* in the Pennal Gulch area are representative of those found in the north central portion of the species range. The Pennal Gulch area contains four known subpopulation areas of this species, and habitat for additional populations. The area also contains many of the Challis endemic sensitive species, including *Astragalus aquilonius* and *A. amblytropis*, and representative examples of typical Challis area communities and unusual associations containing rare or sensitive species. An unusual cottonwood community with a unique understory composition is present along a portion of the drainage channel.
Herd Creek Watershed	ACEC/RNA: 17,943 acres This would include the existing Lake Creek ACEC (2,054 acres)/RNA (1,055 acres).	Important known spawning area for steelhead trout and chinook salmon; bull trout habitat; riparian recovery demonstration and control area; rare/sensitive plants; roadless, primitive, and scenic values.	Herd Creek is a known spawning stream for the threatened steelhead trout and chinook salmon, and is one of the key spawning tributaries of the East Fork critical habitat watershed. Bull trout, a resident fish species listed as threatened, are also found in Herd Creek. The upper main stem of Herd Creek on BLM land below the Forest Service boundary has been fenced since 1980, and serves as a demonstration and control area for riparian study, recovery and management. Three populations of *Thelypodium repandum*, a sensitive plant species, are known from this area, the most southern edge of the species range. The peripheral location and the range of habitats on which *T. repandum* occurs in the area suggest significant genetic differences from other populations in the region. The area also contains many of the Challis endemic sensitive species, including *Astragalus aquilonius* and *A. amblytropis*. Most of the watershed is in WSA status because of its primitive and scenic values, naturalness, and opportunities for solitude. The Lake Creek portion of the watershed above the State section on Lake Creek is a suitable WSA (see *Glossary*, p. 183).

Name	***Size***	***Values***	***Relevance and Importance***
Birch Creek	ACEC: 8,649 acres	Crucial winter range and lambing habitat for bighorn sheep; rare/sensitive plants.	The area provides general winter range, critical winter range, and lambing habitat for a remnant herd of approximately 50 bighorn sheep. The inherently low genetic viability of such small populations places the population at risk from environmental events. Levels of human activity, off-road vehicle use, and disturbance from domestic dogs are greater than normal because of the area's close proximity to the town of Challis (see *Map 6: Birch Creek ACEC*). The potential for mineral development activity is relatively high in this area, and livestock grazing is an existing source of forage competition. Two populations of *Thelypodium repandum*, a sensitive plant species, and one population of Lemhi milkvetch (Astragalus aquilonius), another rare/sensitive species, have been found in the area.
Donkey Hills	ACEC: 29,706 acres (Note: The ACEC would include approximately 4,714 acres in the Big Butte Resource Area - BLM.)	Crucial winter range, general winter range, and calving habitat for a large elk herd.	The area encompasses winter range and calving habitat for approximately 800 elk. The winter range is important to the long term survival and viability of outlying elk populations. It is regionally significant because it is used by elk from many distant big game hunt units and helps maintain regional levels of elk hunting opportunity. The area's forage, cover, and other habitat components are critical to maintaining good quality habitat conditions on distant winter ranges and in reducing regional crop depredation complaints.
Lone Bird	ACEC: 9,969 acres	Numerous and unique cultural resources; rare and sensitive plants.	The area contains a number of prehistoric sites, identified quarry sites, and evidence of deeply stratified cultural deposits. The prehistoric sites are threatened by intensive erosion, vandalism, and destructive casual use. Several of the sites are listed on the National Register of Historic Places. The area is also of local and regional significance to the Shoshone-Bannock Tribes for its socio-cultural values. One population of *Thelypodium repandum*, a sensitive plant species, and populations of two other Challis endemic plant species (*Astragalus amblytropis* and *A. aquilonius*) are found in the area.

Biological Diversity.

Law, Regulation, and Policy

The Federal Land Policy and Management Act (FLPMA) (43 USC 1701 *et. seq.*), the Endangered Species Act (16 USC 1531 *et. seq.*), and BLM Manuals are the BLM's primary authorities for managing biological diversity. FLPMA requires that (1) public land resources be periodically and systematically inventoried, (2) public land resources be managed in a manner that will protect the quality of scientific, ecological and environmental values, and (3) ACECs be identified where special management attention is required to protect and prevent irreparable damage to important values, including fish and wildlife resources or other natural systems or processes. Manual section 6500.06 states: "Manage habitat with emphasis on ecosystems to ensure self sustaining populations and a natural abundance and "diversity" of wildlife, fish, and plant resources on the public lands." Manual section 6840.06 states: "Conserve endangered and threatened species and the ecosystems upon which they depend."

Affected Environment

Data on biodiversity in the RA include a variety of inventories of vertebrate animal and vascular plant species, classification of vascular plant communities, and mapping of plant community distribution. Inventories of rare plant and animal species and their distributions is ongoing. Data on the distribution and occurrence of non-vascular plants are limited to documented occurrences of some lichens and mosses. Data on invertebrates are limited to non-BLM sources such as museum records and private collections.

Concern about the management of biodiversity has only begun to receive attention during the last three to five years. New tools, such as computerized geographic mapping of public land resources, are just now becoming available to facilitate the storage and retrieval of biodiversity data after the information is obtained through inventories. (The RMP proposes resource inventories which focus on the collection of biodiversity data (see PRMP, Biological Diversity, Goal 1, p. 40.)

Biodiversity is the variety of life and its processes and includes four primary levels of variation: genetic, species, community, and landscape/ecosystem. The most basic level of variation is genetic diversity. Genetic variation within and between populations of species affects their physical characteristics, viability, productivity, resistance to stress, and adaptability to change. Species diversity includes variation in the abundance of individuals within a population and the numbers of species within a community or given geographic area. In the Challis RA, species such as redwing blackbirds, Basin big sagebrush, and Douglas-fir trees are abundant; others, such as the chinook salmon, are not. Associations or populations of species comprise the community level of biodiversity. Communities form the biotic parts of ecosystems and can usually be recognized as distinct stands, patches, or sites such as old growth forests, riparian areas, or wetlands. Finally, at large geographic scales, biological diversity includes variety in the kinds of ecosystems and their patterns and linkages across regional landscapes.

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Because different species of plants and animals utilize different stages of biological community succession (see *Glossary*: ecological status, p. 170), maximizing the number of successional stages can increase the number of species on a given tract of land. A change in land use or land manipulation involves a trade-off between species that benefit from the change and those that do not. If the species that are harmed by a given land use or management action are rare or more imperiled than the ones that benefit, or if the land use eliminates a rare species or community, then biological diversity is reduced. If the land use eliminates a species or community that is common elsewhere in the landscape and provides an opportunity for a rare or imperiled species or community to increase, then biological diversity is enhanced (The Keystone Center 1991).

Genetic Diversity

Little is known about the levels or distribution of genetic diversity in the RA. It is fairly well established that populations that are ecologically or geographically isolated may be unique, and even within the main population of a species, genetic selection and environmental variation may have established significant genetic differences. Thus, subpopulations of rare plants on the fringe of a species range are likely to be genetically different from the remainder of the population. The species listed in *Table 3-27: Rare and Endemic Plant Species Known or Likely to Occur in the Challis Resource Area* (see ***Chapter 3*** - Vegetation, pp. 292-293), are examples of species that are limited geographically and are endemic to the Challis RA. The same is true of isolated fish and wildlife populations. The spotted frog population in Chilly Slough and anadromous fish stocks spawning only in the East Fork Salmon River are examples of subpopulations with a high probability of significant genetic difference from other populations.

The conservation of genetic diversity can be accomplished by maintaining representative communities and their component species without tracking the genetic material itself (Keystone Center Report 1991). This would involve restricting or controlling the release of exotic and native species that may threaten natural communities or populations; maintaining genetically representative examples and unique populations of native species throughout their ranges; and maintaining genetic integrity of selected distinct populations, races, and subspecies to ensure that the gene pools they represent do not become extinct.

Species Diversity

Data on species diversity in the RA include comprehensive inventories of vertebrate animal and vascular plant species. Data on invertebrate species are limited to museum records and other non-BLM sources such as private collections. Species distributions have not been completed for all vertebrate animals and vascular plants. Data on the distribution and occurrence of non-vascular plants are limited to documented occurrences of some lichens and mosses. Inventories of rare plants and animals are ongoing.

Inventories, studies, and observations have documented 307 vertebrate fish and wildlife species in the RA. This list (see Planning Record) does not include species that have been documented only once or twice and are considered to be accidental in occurrence. The distribution of the larger, more easily observed, common vertebrate animal species is relatively well known. Data

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are limited on rare vertebrate species, especially those that are difficult to observe due to their ability to elude observers, their small size, or the inaccessibility of their habitats to humans. Most of the species listed in *Table 3-36: Special Status Wildlife Species of the Challis Resource Area* (see ***Chapter 3*** - Wildlife, pp. 325-326) belong in this category.

One factor affecting conservation of biodiversity is population viability (see *Glossary*: viable population, p. 185). In general, viability indicates the likelihood of a species' continued existence in an area for some specified period of time. Viability is generally higher in direct proportion to population size, width of geographic distribution, kinds and numbers of locations occupied by the species, and overall species resistance and tolerance to environmental change or disturbance. The concept of population viability provides a relative standard for judging the expected future for native plant and animal species. Population viability of species listed in *Table 3-36: Special Status Wildlife Species of the Challis Resource Area* (pp. 325-326) and *Table 3-27: Rare and Endemic Plant Species Known or Likely to Occur in the Challis Resource Area* (pp. 292-293) is generally unknown due to relatively limited information on species distribution, habitat requirements, and other factors. Special status fish, plant, and animal species are more fully discussed in three other sections of ***Chapter 3***: "Fisheries" (pp. 222-227), "Vegetation" (pp. 278-296), and "Wildlife" (pp. 315-326).

Endemic species are native plant or animal species which are limited in distribution to specific geographic areas. The Challis Resource Area, with its unusual volcanic soils and dry climate, contains a number of species which are unique to this area - they do not occur anywhere else in the world. Some endemic species are so common within their limited distribution that they are not considered in any danger of extinction, and thus may not warrant a special status category. They do deserve recognition, however, as important elements of biodiversity. *Table 3-27: Rare and Endemic Plant Species Known or Likely to Occur in the Challis Resource Area* (pp. 292-293) lists the endemic, peripheral, disjunct, and unusual plant species of the Challis Resource Area that are not designated special status species (see *Glossary*: disjunct, endemic, peripheral, pp. 170, 171, and 178).

Community Diversity

The distribution of common plant communities is relatively well known in the RA. *Table 3-21: Vegetation Summary for the Challis RA* and *Table 3-22: Riparian Community Types* (see ***Chapter 3*** - Vegetation, pp. 282-283) list the principle plant communities that have been described for the RA. Various community type and ecological site inventories have been conducted in different parts of the RA, and are available for review in the Challis RA office.

Conservation of naturally occurring plant and animal populations requires the maintenance of representative examples of all biological communities, along with the structural diversity of these communities and the migration corridors that connect communities and ecosystems. Especially important are biological communities that are limited in distribution or require special management to maintain them. Examples are old growth forests, wetlands, riparian areas, and other unique communities with limited distributions, such as the rare plant communities that occur in some areas proposed for ACEC designation (see PRMP, ACECs, pp. 29-39). Special habitats, such as talus slopes and cliffs, provide another component of diversity.

Communities occupy units known as ecological sites which can be mapped. Ecological sites are determined by soil, climate, and vegetation and are standardized by the Natural Resources Conservation Service (formerly Soil Conservation Service) during soil survey mapping efforts. Vegetation on an ecological site may be comprised of a range of possible plant communities in different successional or seral stages (see *Glossary*: ecological status, p. 170). The composition of plant and animal species usually varies by seral stage. The potential natural community (PNC) (see *Glossary*) is the seral stage that theoretically would occur on an ecological site barring any disturbance. Early, mid, and late seral plant communities typically result from the effects of disturbance events such as fire, timber blowdown, insect infestation, or past and present land uses. It is believed that fire suppression and grazing of herbaceous fuels have progressively reduced the size of wildfires in the Resource Area. This may have resulted in a gradual, extensive increase in sagebrush canopy cover on many upland vegetative sites, and an increase in coarse fuel loads in forested areas (see ***Chapter 3*** - Fire Management, pp. 220-221). The current effects on biodiversity of these changes in vegetative condition are discussed in the Draft RMP/EIS, ***Chapter 4*** - Biological Diversity, pp. 190a-197a, Alternative 1.

The structural diversity of a plant community is characterized by features such as snags and large fallen trees, canopy structure, plant age diversity, and the presence of pools and riffles in aquatic systems. Structural diversity is usually a function of ecological succession; *i.e.*, the seral stage of a particular plant community determines structural diversity.

In the Challis RA, forest lands enhance biodiversity within the broad expanses of sagebrush-grasslands that make up most of the Resource Area. The vertical and horizontal structure of forest stands, their patchiness on the landscape, and their occurrence on more mesic (wet) sites result in different associations of plant and animal species. The presence of extensive forest lands at higher elevations on adjacent National Forest lands detracts little from the biological importance of BLM forest lands as islands, edges, and ecotonal areas bordering sagebrush-grassland communities (see *Glossary*: ecotone, edge, island, pp. 171 and 175).

Structural diversity contributes to species richness and the general ecological function of all plant communities. It is especially important in forested areas, where snags and fallen trees may support up to 20 percent of the vertebrate species (Keystone Center Report 1991). Many of these species (*e.g.*, woodpeckers) help maintain ecosystem health. Structural diversity is also important for numerous poorly-known elements of diversity, such as invertebrate and fungal species, due to the array of habitats and special niches that structural features provide. Structural diversity is typically high in natural forested stands and healthy sagebrush grasslands. Younger, managed forest stands typically have lower structural diversity, due to timber harvest which removes older trees, and subsequent site preparation, which removes or redistributes downfall and other woody debris.

Landscape/Ecosystem Diversity

Landscape or ecosystem diversity is the geography of the size, shape, and connectedness of different ecosystems across a large area, and may be described in terms of the arrangements of communities within a watershed or larger area. For example, a landscape interspersed with grasslands, shrublands, meadows, ponds, streams, wetlands, forests and mountains typically has greater biological diversity than one that is a broad, flat expanse of sagebrush-grassland.

Landscape diversity has not been inventoried in the RA. However, the steep, rugged mountainous terrain, and the patchy distribution of forested areas interspersed with sagebrush-grassland results in significant natural landscape diversity.

Agricultural and residential development of private lands in valley bottoms within the RA has resulted in conversion of some native desert-shrub habitats (sagebrush and saltbush shrub communities) to non-native cultivated crops and pastures. Diversion of streams for irrigation has resulted in significant fragmentation of aquatic habitats, resulting in loss of connectivity between habitats (see *Glossary:* fragmented, p. 173). This loss and fragmentation of habitats has adversely affected some native fish and wildlife species. Sage grouse winter ranges, sage grouse strutting grounds, and antelope winter ranges in the Barton Flat area of the Mackay Planning Unit have gradually been converted to cropland and dryland pasture. In the Challis area, residential development, subdivision fences, busy highways, stray dogs, and domestic sheep are adjacent to the Birch Creek and Morgan Creek bighorn sheep winter ranges. Bighorn sheep mortality has increased above natural levels and the viability of the small Birch Creek herd is at risk. The viability of anadromous fish populations which spawn within the RA are at risk because fewer fish are returning to spawn (due to factors outside RA boundaries) and because of aquatic habitat degradation and dewatering on both private and public lands within and adjacent to the RA. Irrigation diversions and dams on streams have greatly reduced or eliminated the connectivity between essential aquatic habitat components (*e.g.*, ocean habitat and spawning areas for anadromous fish) and reduced the viability of populations by reducing or eliminating opportunities for genetic interchange.

Cultural Resources.

Law, Regulation, and Policy

Some of the legislation and implementing regulations governing cultural resource management include the following: the National Historic Preservation Act of 1966 (NHPA), as amended; the Archaeological Resources Protection Act of 1979 (ARPA), as amended; the American Indian Religious Freedom Act of 1978 (AIRFA); and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). The Federal Land Policy and Management Act of 1976 (FLPMA) states that public lands will be managed in a manner "that will protect the quality of...historical...and archeological values". The National Environmental Policy Act of 1969 (NEPA) and NHPA provide the objective to coordinate plans and functional programs and resources so as to preserve and protect important cultural resources early in the project planning process. Traditional lifeway values are usually identified through consultation with tribal officials. The American Indian Religious Freedom Act (AIRFA), NHPA, Executive Order No. 13007 (Indian Sacred Sites, of May 24, 1996), and certain treaty rights guarantee access, use, and protection of traditional cultural properties, religious sites, and sacred objects. *Appendix E, Item 1* (pp. 638-643) includes an overview of relevant Federal legislation affecting cultural resource management.

Affected Environment

The BLM is responsible for identifying, protecting, managing, and enhancing archaeological, historic, architectural, and traditional lifeway values located on BLM public lands, as well as those that might be affected by BLM undertakings on non-Federal lands. The Challis Resource Area's cultural resources program manages archaeological remains, historic values, and traditional lifeway values important to Native American groups. (See *Glossary*: archaeological resource/site, cultural property/resource, historic property, and traditional lifeway value (pp. 167, 169, 174 and 184.)

Cultural Resource Inventories

Cultural resources are generally identified through field inventories conducted by qualified professionals to comply with Section 106 of the National Historic Preservation Act of 1966 (NHPA). Informant information and historical records are also used to identify archaeological, historical, and traditional lifeway values. Three types of inventories - Class I, Class II, and Class III (see *Glossary* definition: cultural resource inventory classes, p. 169) - are conducted to identify and assess these values on BLM public lands. A Class I study has not been completed for the Challis Resource Area. An estimated 74,600 acres (9.5%) of the Challis Resource Area have been inventoried for cultural resources at a Class II level using a variety of methods. Approximately 12,500 acres (1.5%) of the Challis Resource Area have been intensively inventoried at a Class III level. Most of these Class III inventories were associated with project activities where sites needed to be identified and evaluated in order to protect significant values and minimize effects on these values.

While these inventories have served to identify numerous cultural resource sites, little work has been done to synthesize the results and provide a comprehensive framework for assessing cultural resource function, significance, variability, and distributional patterns. Existing inventory information indicates that sites are situated across a variety of landscapes; however, a general hypothesis that sites are distributed near water sources has been proposed.

Prehistoric and Historic Sites

BLM lands within the Challis Resource Area contain 495 known, recorded cultural resource sites which represent a variety of types and chronological periods. Together, these sites document an almost continuous human occupation of the RA from at least 11,000 years ago to the present.

Identified prehistoric sites include lithic scatters, quarry sites, rockshelters, talus pits, rock structures and piles, and pictographs. These remains mostly represent activities occurring within the RA prior to the arrival of European populations in the 1800s. Based on information available in the archaeological record, the mountains and valleys located north of the Snake River Plain (which include lands of the Challis Resource Area) appear to have been major areas of prehistoric utilization in central and eastern Idaho. While sites adjacent to the RA record human presence and big game hunting as early as 14,500 years ago (see Gruhn 1961 on Wilson Butte Cave), archaeological remains found within the RA indicate at least 11,000 years of human presence in the area. Due to the scarcity of research conducted on prehistoric archaeological sites within and adjacent to the RA, little is known about these early inhabitants.

Historic sites in the Challis Resource Area include components of historic mining districts, stage and freight road remnants, homesteads, cabins, and dumps. Fur trapping and exploratory expeditions in the early 1820s marked the first European presence in the Challis Resource Area. A major Euro-American population expansion in the RA occurred in the 1860s when gold was discovered. This expansion eventually led to serious friction with the original inhabitants of these lands, and culminated in the U.S. Army's removal of most remaining non-reservation Indians in 1879. Some Indian families were able to escape capture and remain in the remote and rugged country until the 1900s. Small ranches and farms soon appeared in the arable valleys to meet the needs of the miners. Mining communities, now seen as ghost towns, also sprang up to serve the burgeoning mining industry. Custer County was created in 1881 and the boom continued until the early 1900s. While prospecting for gold and silver continued to be of great interest into the 1920s, cattle and sheep ranching operations became the primary economic focus during the settlement and homestead period (1880s to present).

Native American Traditional Values

Native American Indians lived on lands within the RA for thousands of years. They hunted, fished, gathered plant foods, buried their dead, and conducted religious ceremonies. Beliefs, customs, and practices of their culture were passed down through generations and were still in use when the Indians were removed from their homelands onto reservations. Today, many of the customs are still being practiced by Native Americans on RA lands. The areas used for these practices hold special significance to Native Americans.

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Cultural Resources Special Areas

The Challis Resource Area lies at the boundaries of three distinct cultural areas: the Plains, the Great Basin, and the Columbia Plateau. The majority of the known sites located in the RA are considered eligible to be listed on the National Register of Historic Places (NRHP). Several sites are listed on the Register, including the Challis Bison Jump and twenty-eight sites included in the Challis Archaeological Spring District. The Bayhorse Mining District is also listed on the Register, although most of the site lies on private patented lands.

Other cultural resource areas located within the Challis Resource Area hold special significance to Native Americans and as indicators of prehistoric and historic adaptation in the RA. Noteworthy cultural resource areas are further described in *Appendix A, Item 1: Cultural Resource Special Areas* (page 599).

Wickiup - Challis Resource Area

Cultural Resources Condition and Trend

Cultural resources condition and trend in the RA vary considerably due to the variability of terrain and geomorphology, access and visibility, and past and current land use. Because recorded sites are manifested by exposed artifacts, features, and/or structures, they are easily disturbed by elements such as wind and water erosion, animal and human intrusion, and development and maintenance activities. Cultural resources may be "harvested" by three methods: approved site excavation, unauthorized use (vandalism/collection), and Native American use of traditional lifeway values. Based on limited site visitation, site form documentation, and informant information, the trend of site conditions in the RA is considered to be downward. Vandalism or collecting (unauthorized digging and "pothunting") at recorded sites, impacts caused by development and maintenance activities (associated with grazing, mining, and recreation), and erosion (*e.g.*, natural, human, animal) have adversely affected known cultural resources.

The demand for cultural resources particular to the Challis Resource Area is thought to be moderate, based on known interests of researchers and members of the Native American community, documented site conditions, informant information, and site visitation.

Economy and Society.

Law, Regulation, and Policy

The National Environmental Policy Act of 1969 requires that the human environment be considered when evaluating the environmental impacts of proposed public land actions. Thus, the BLM shall consider how the effects of its actions extend beyond public lands boundaries into the surrounding social and economic environment.

Affected Environment

This section describes the economic and social climate of two distinct geographical regions which may be affected by RMP actions: the Fort Hall Indian Reservation and the Custer-Lemhi counties two-county region (see *Map 20: Economic and Social Analysis Regions*).

Fort Hall Indian Reservation

The Fort Hall Indian Reservation, home of the Shoshone-Bannock Tribes, is located in southeastern Idaho (see *Map 20: Economic and Social Analysis Regions*). The Reservation contains about 544,000 acres (850 square miles), 96% of which is individually and tribally owned (Shoshone-Bannock Tribes 1994). Land uses on the Reservation are as follows: 325,000 acres for grazing/timber; 140,000 acres agriculture; 33,728 acres of flooded reservoir; and 12,500 acres for mining (Colter *et al* 1995). Bannock, Bingham, Caribou and Power counties lie within the boundaries of the Reservation, and the cities of Blackfoot (pop. 9,646 - 1990 U.S. Census) and Pocatello (pop. 46,080 - 1990 U.S. Census) are on the northern and southern ends of the Reservation. The most populous portion of the reservation lies between the cities of Pocatello and Chubbuck to the south and Blackfoot to the north. The townsite of Fort Hall (pop. 900) is an unincorporated village in Bingham County and the only major community within the Fort Hall Reservation.

Under the *Treaty with the Eastern Band Shoshone and Bannock, 1868* members of the Shoshone-Bannock Tribes retain rights to hunt, fish, and gather natural resources on unoccupied lands of the United States **outside** the boundaries of the Reservation, including public lands within the Challis Resource Area. Currently, the Tribes do not depend on commodity resources from the Challis Resource Area for their economic livelihood. However, the Tribes do rely on resources from public lands for subsistence and cultural purposes. Little specific information is available on the Tribes' degree of dependence on resources from the Challis Resource Area, or on the exact species sought or locations used by tribal members exercising their treaty rights in the RA. (**Note:** For additional information on tribal treaty rights in the Challis Resource Area, see ***Chapter 3*** - Tribal Treaty Rights, pp. 276-277.)

The Fort Hall Indian Reservation economy is primarily comprised of economic activity related to leasing agriculture land for irrigated crop production; contracts with the Federal government;

grants from Federal, state, and private sectors; and operation of the Bingo Hall and the Trading Post complex (grocery store, restaurant, clothing store, gas station, and museum) located just off of Interstate-15. Through the efforts of Tribal government, the Tribal Employment Rights Ordinance (TERO) program, and others, economic and social conditions on the Reservation seem to have improved gradually during the past 15 years. However, the Reservation economy still exhibits unemployment and household poverty levels far greater than the average unemployment and poverty levels for the U.S., Idaho, or four surrounding counties. According to Jorgensen (1972), the poverty, health, and other problems common among Native American groups are derived from their position within the economy of the general society. Jorgensen (1972) documents that conquest of various groups, the forcible taking of Indian-owned lands, the past confinement of Indians to reservations, racist-ethnocentric attempts to destroy Indian cultures, and contemporary attempts to secure control over Indian lands, water or other resources have resulted in the poverty of Indians past and present.

Demographics

The Tribes have 3,528 enrolled members who live on and off the Reservation. According to 1990 census data, 3,035 American Indians live on the Fort Hall Reservation and the total Reservation population is 5,114 persons. Of the tribal members living on the Reservation, the highest percentage (42%) are children eighteen years or younger. The Reservation also has a large percentage of persons of child rearing and working age (34%). The Reservation has a small population (10%) of young adults ages 19-24, presumably because many persons in this age group leave the Reservation to find work or attend college or trade school. The lowest percentage of the population represented on the Reservation is in the age group of 65 years and older (5%).

Tribal members living on the Fort Hall Indian Reservation (3,035 persons) comprise a small percentage (2.4%) of the total population in the four-county area; the total 1995 estimated population of Bannock, Bingham, Caribou, and Power counties was 128,569 persons (U.S. Bureau of the Census, USA Counties, 1996 CD-ROM).

Employment and Business Development

The Shoshone-Bannock Tribal Government has developed a number of tribal businesses to provide employment for tribal members. In addition, approximately 280 people are employed by the tribal government itself; most are tribal members.

A buffalo herd was established in 1966. While some animals are slaughtered annually for tribal celebrations and religious ceremonies, the herd has grown large enough that some buffalo are slaughtered routinely for sale at the Tribal Trading Post Store and Oregon Trail Restaurant. In 1976, a tribal farm of 1700 acres was established where potatoes and grain are raised by irrigation. The tribal farm enterprise has been expanded by another 550 acres at a farm near the American Falls Reservoir. In 1978, the Trading Post complex was built on the Reservation off of Interstate 15. Since 1978, the Trading Post has grown from a grocery store to include a gas station, clothing store, ice cream shop, video arcade, restaurant, museum, Bingo Hall, post office, and credit union. The Tribes have a construction enterprise which was responsible for building the

Trading Post complex. A convenience store on Interstate-86 west of Pocatello has also been opened (Colter *et al* 1995). Finally, in a sample of approximately one-third of the adult population in 1960, two-thirds of all housewives reported earning some cash through craft sales (Knack 1986).

Depending on available capital, tourism/recreation-related businesses may become a future source of income for the Tribes. Proposals include promoting the museum and buffalo herd, developing an R.V. park, developing a ski resort on Mount Putnam, and developing a marina and hotel on the American Falls Reservoir (Colter *et al* 1995).

Unemployment on the Fort Hall Reservation is high. In 1982, approximately 65% of the potential labor force over age 16 was unemployed (BIA Report On Labor Force *in* Shoshone-Bannock Tribes 1985). Since 1982, the Tribal Employment Rights Ordinance (TERO) program has become effective and made significant progress in Indian job placement both on and off the Reservation. A 1985 estimate judged the unemployment rate to have dropped substantially, to 50% (Shoshone-Bannock Tribes 1985). This unemployment rate, though improved, is still far greater than average unemployment figures nationally (4.6% in 1997), State-wide (4.8% in 1997 - Idaho Dept. of Employment 1997), or for the four-county area (5.0% in 1997 - Idaho Dept. of Employment 1997).

Expenditures for Public Goods and Services

The Shoshone-Bannock Tribes administer reservation services through various departments and programs. Under P.L. 93-638 the Tribes contract from the Federal government, Bureau of Indian Affairs, and Indian Health Services to provide services to Tribal members. Also, the Tribes receive various grants from Federal, state, and private sectors. The Tribal government operates from an estimated 4 million dollars a year from its own resources. The tribal general fund is comprised of money from assets on the Reservation. Revenue is gained from leasing agricultural lands and granting right-of-way privileges on the Reservation (Shoshone-Bannock Tribes 1994). The Tribes also use approximately 9 million dollars annually from grant and Federal sources to perform governmental functions to the tribal membership (Shoshone-Bannock Tribes 1994).

Income and Earnings

The median income on the reservation is at the poverty level or below (Colter *et al.* 1995). The gross income per working household was less than $10,000 annually for 65% of working persons and greater than $15,000 per year for only 24.6% of working persons. Thus, the vast majority (greater than 65%) of **working** households on the Reservation are at or below the U.S. poverty level for a non-farm family of four ($15,569 - U.S. Bureau of the Census 1997). The percentage of people living below poverty level on the Reservation is very different from the percentage of families in the four-county area who have incomes below poverty level: In 1979, an average of only 10% of families and 12% of persons in Bingham, Bannock, Caribou, and Power counties had incomes below poverty level (Idaho Dept. of Commerce 1989). More recent (1995) annual **per capita** (not "per household") personal income data for counties in the four county area also demonstrate the difference in economic levels between the Reservation and surrounding counties.

Per capita incomes range from $14,733 in Bingham County to $17,033 in Bannock County, substantially higher than the median poverty-level income for the Reservation (U.S. Dept. of Commerce - Bureau of Economic Analysis, *Survey of Current Business*, August 1997).

Given the poverty level of the majority of people living on the Reservation, it is likely that resources gathered through the exercise of treaty rights off-reservation are an important or essential component of personal subsistence for many tribal members. Tribal members utilize resources from the Challis RA such as big game, small game, resident fish species, anadromous fish species, and various roots, nuts, and berries to provide food for themselves and their families. Tribal members also use resources from the Challis RA for medicinal purposes and to craft products for personal use or sale at the Trading Post (*e.g.*, beaded elkskin moccasins).

Society and Culture

The society and culture of the Shoshone-Bannock Tribes are closely tied to natural resources. The Tribes' religion, general beliefs, value system, and lives continue to revolve around natural resources and their ability to hunt, fish, and gather natural resources. The Tribes' society and culture are directly tied to various natural resources from the Challis RA, for the Tribes have traditionally and historically utilized resources from this area such as elk, bighorn sheep, and salmon. For example, procuring salmon is a very essential aspect of the Shoshone-Bannock society and culture. Ceremonies, family gatherings, celebrations, and other various events are planned in conjunction with salmon runs and fishing activities. The same type of activities also occur during the hunting seasons and plant gathering seasons.

Hunting, fishing, and gathering natural resources are more than a sport or hobby for the Shoshone-Bannock people; they are a way of life that can not be separated from their culture and society. Clean water, clean air, and healthy lands that will sustain viable populations of fish, game, and natural resources necessary to subsist upon are essential to the Shoshone-Bannock Tribes' lifestyle.

Custer-Lemhi Counties Two-County Region

The socio-economic description of Custer and Lemhi counties is based on *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: And Models*, a technical report prepared by the Department of Agricultural Economics and Rural Sociology, University of Idaho in fulfillment of a cooperative agreement among the Salmon District BLM, Salmon National Forest, Lemhi County, and Custer County (BLM 1994). This section presents an overview of economic and societal information about Custer and Lemhi counties which may be relevant to the RMP, including descriptions of the area's demographics, employment, income and earnings, sales, expenditures for public goods and services, business development and operations, and society and culture.

The two-county area under consideration is subregionalized for the purpose of analysis (see *Map 20: Economic and Social Analysis Regions*). Subregion boundaries are consistent with the clustering of population, physical features of the land, and distribution of economic sectors and

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trade patterns. *Map 24: General Location* shows the location of major population centers within several hours drive of the Challis Resource Area.

Various social, economic, environmental, and political situations affect the economy and society of the two-county area. For example, changes in world mineral prices and Federal mineral and environmental policies affect the feasibility of mineral exploration and mining operations. Expanding urbanization nation-wide makes rural, scenic locations like Custer and Lemhi counties attractive to retirees and recreationists, contributing to local growth in the tourism sector and a population influx of retirees. Public policy regarding use of the public domain for grazing, mining, and timber harvest affects persons and businesses associated with those economic sectors. Legislation such as the Endangered Species Act may, in some locations, preclude the previous, historic use of resources such as grazing, timber harvest, and mining, while enhancing the land's value for resources such as recreation. The vast decline in salmon fisheries has reduced supplemental income opportunities for several communities which once experienced substantial salmon runs.

Demographics

Table 3-3 lists the 1990 populations of Custer and Lemhi counties and their subregions. Both counties have a large percentage of persons of child rearing and working age (ages 25 to 49) (Custer - 39%; Lemhi - 33%), households with children under age 18 (Custer - 67%; Lemhi - 83%), and persons of retirement age (age 65 and older) (Custer - 12%; Lemhi - 17%). Both counties have a small population (4%) of young adults ages 19 to 24, primarily because many persons that age leave the area to find work or attend college or trade school.

Custer and Lemhi counties are rural, with population concentrations in and around the communities of Challis, Mackay, Stanley, Salmon, Tendoy, Leadore, and North Fork. Salmon is the largest community and the trading hub for the region. In 1890 the population in each county was about 2,000 persons. Custer County had a population of at least 3,000 persons in 1920, 1940, and 1980. Recent population changes in Custer County have occurred because of the development and subsequent temporary closure of the Cyprus Mine at Thompson Creek. Custer County experienced a 29% population increase in 1981-82 due to in-migration; from 1983 to 1989, the population declined gradually due to out-migration, and layoffs at the mine in 1992 caused a further decline in population. Still, the current population (4,133) is the highest since 1890 data. Historic population data suggest that dramatic population changes are a result of migration patterns due to fluctuations in employment opportunities. Lemhi County had a population of about 6,000 in 1940, which declined gradually to about 5,500 in 1970. Lemhi County experienced population increases from 1969-1982, gradual decreases from 1982-1989, and slight increases again in the early 1990s, bringing the population to its 1990 level of 6,899 persons. As for Custer County, Lemhi County's population changes have been most dramatically affected by migration patterns due to changing employment opportunities.

Table 3-3: 1990 Population of Custer and Lemhi Counties, Idaho, by County and Subregion[1]

County/Subregion	Population Number	Population Percent
Custer County	4,133	37.46
Challis Subregion	1,765	16.00
Big Lost River Subregion	1,207	10.94
Stanley Subregion	444	4.02
Pahsimeroi Subregion[2]	1,109	10.05
Lemhi County	6,899	62.54
Salmon Subregion	5,009	45.40
Tendoy-Leadore Subregion	588	5.33
North Fork Subregion	910	8.25
Total Two-County Region	11,032	100.00

[1] Source: Census of Population and Housing, 1990 (in BLM 1994).

[2] The Pahsimeroi subregion includes the Patterson Division, which is within Lemhi County and has a population of 392. As a result, the subregion numbers do not add up to their respective county totals.

Employment

Appendix B, Items 1 and *2* (pp. 600-601) summarize employment for the two-county region surrounding the Challis Resource Area. Regional employment opportunities, which total 4,535 full-time equivalents (FTE) (see *Glossary*, p. 173), are dominated by agriculture (24.18%), businesses associated with visitors to the area (22.71%), State, local, or Federal government employment (20.70%), and mining (18.74%). Employment in the Challis subregion is primarily in the mining sector (55.36%), with other employment opportunities in secondary sectors which provides goods and services for the mine and employee households. The Salmon subregion has a diverse employment base, with no dominant sectors. The Stanley subregion has a majority of employment associated with visitors to the area (78.69%). The Pahsimeroi, Big Lost River, and Tendoy-Leadore subregions have a high percentage of agricultural employment (83.95%, 50.64%, and 76.93%, respectively). The North Fork subregion emphasizes employment associated with visitors to the area (63.65%) and Federal government (24.43%).

Unemployment in Custer County ranged between five and nine percent from 1982 to 1988, and dropped to between three and six percent from 1988 to 1993. Custer County's employment has tended to be stable since 1988, except when changes in the mining sector during late 1993 and early 1994 caused substantial employment fluctuation for Challis-area mine workers. Depending on mining activity in the county, unemployment levels should continue to fluctuate between three and six percent. In addition, there should be no appreciable change in the employment composition by industry in the near future.

In Lemhi County unemployment ranged from 7 to 13 percent between 1975 and 1982, peaked at about 18 percent in 1983, decreased gradually to a low of five percent in 1989, and then increased to its current level of about 11 percent. In 1991, average unemployment for Idaho was 7.9 percent and the national average was 6.6 percent. Higher unemployment levels in Lemhi County may be due to large numbers of people employed in seasonal work associated with agriculture, tourism, and government agencies. Lemhi County has experienced more fluctuation in unemployment than Custer County during the past 15 years. Trends in retail and service industries indicate that the composition of the economy is shifting, albeit slowly. This changing employment composition may make it more difficult to predict future employment fluctuations.

Mining development since the spring of 1994 in Lemhi County (Beartrack mine) and Custer County (Hecla Grouse Creek gold mine, Yellowjacket mine, Thompson Creek molybdenum mine) have increased expectations for a healthier local economy in the near term. Temporary construction jobs have been replaced with operations jobs that are permanent and long term (although mine operations workers may transfer to another job site when this mine ceases operations in 5 to 7 years). However, minerals commodities are very sensitive to national and international markets, and changes in commodity prices can rapidly affect local mining development and employment potential.

In the Challis subregion many jobs outside the mining sector are seasonal, part-time, and/or low wage. This results in significant underemployment and situations where a family can be below the Federal poverty level even if household wage earners have several jobs. Because employment in the mining sector rises and falls with the trend of commodity prices, the economy of Challis will also need to rely on agriculture, government employment, and visitor-generated business. With a few exceptions, these sectors do not offer wages as high as the mineral sector and the jobs are often seasonal. However, these sectors provide vital employment opportunities for an area with significant evidence of multiple job holdings.

Underemployment and poverty also exist in the other subregions; probably, this is again because of a lack of full-time, yearlong, and higher-wage employment opportunities.

Of the 434 Federal employees located within Custer and Lemhi counties, 68 (15.7 percent) are employed by the BLM at its Salmon Field Office. This number increases temporarily during the summer, as seasonal employees are hired for field work and fire crews.

Income and Earnings

Specific earnings and personal income information for Custer and Lemhi counties and their subregions is provided in *Appendix B, Items 3, 4* and *5*, pp. 602-604.

Earnings for the two-county region are estimated at over 97 million dollars (1991 data). In general, the distribution of earnings in each economic sector of the counties and subregions is similar to the distribution of employment. Variations may be due to higher earnings per job in

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the mining sector and lower earnings per job in the tourism sector. Earnings in the region are dominated by the mining (28.58%) and agriculture (21.78%) economic sectors. However, State, local and Federal government (19.23%), economic activity associated with visitors to the area (14.06%), and the timber industry (8.75%) also have a substantial impact on the regional economy. Custer County's earnings are generated primarily in the mining (48.61%) and agriculture (21.92%) sectors. Lemhi County has a fairly even distribution of earnings and employment throughout all sectors of the economy. Except for the Salmon subregion, where earnings are distributed fairly evenly across economic sectors, each subregion has one or more predominant sources of earnings: The Big Lost River, Pahsimeroi, and Tendoy-Leadore subregions are primarily agricultural (49.79%, 96.51%, and 85.40% of earnings, respectively); Challis subregion earnings are based on mining (68.78%); the Stanley subregion's earnings stem from business associated with visitors to the area (72.32%); and the North Fork subregion has the majority of earnings from business associated with visitors to the area (43.65%) and Federal government (36.95%).

When Custer County experienced a mining boom in the early 1980s, non-farm personal income nearly doubled, while net farm income slowly continued to decline; changes in net earnings mirrored these changes in personal income. The county has also had a slow, but steady, growth in dividends, interest, rents, and transfer payments, possibly associated with the in-migration of retired persons, who have more non-wage income sources. Income and earnings in Custer County are likely to continue to mirror employment opportunities in the primary economic sector for the county (mining). The growth in government transfer payments (particularly in government retirement) has had a stabilizing influence and should continue to do so in the near future.

Lemhi County has had steady increases in non-farm and total income since 1969, and fairly stable farm income. Government transfer payments (*e.g.*, retirement pensions) have steadily increased since 1969. This growth in government transfer payments has had a stabilizing influence on income and earnings generation within the county. Net farm earnings have tended to fluctuate in step with the cyclical trends in cattle prices (which run in 5 to 10 year cycles). Cattle prices are currently in a "down" phase of the cycle, which may require a few more years to reverse. As cattle prices increase, net farm earnings are likely to increase correspondingly.

In 1991, estimated per capita income was $11,607 for Custer County and $10,624 for Lemhi County, compared with an average per capita income of $15,366 for Idaho and $19,091 nationally. Most personal income in the two-county area is generated within the Salmon (47.10%) and Challis (28.35%) subregions, the areas with the greatest percentage of population. Income per capita is highest in the Challis subregion, where there are many higher-wage jobs in the mining sector, and lowest in the Stanley, Pahsimeroi, Tendoy-Leadore, and North Fork subregions, which have a large number of lower-wage jobs associated with visitors to the area or agriculture. Most subregions (Salmon, Tendoy-Leadore, North Fork, Big Lost, Pahsimeroi) have substantial populations of children, adults, and/or elderly persons living at or below the poverty level. The remaining two subregions (Stanley and Challis) also have a sizeable proportion of households with incomes below $25,000 per year. As discussed earlier, the poverty of the two-county region may be due to the lack of full-time, yearlong employment opportunities and few higher-wage jobs.

Sales

Total industry sales represents the level of economic activity based on the value of all goods and services produced locally/regionally. These goods and services are either sold locally, reflecting local activity, or are sold outside the region and considered export sales. Total sales for the two-county region exceeded $291 million in 1991 - $136.5 million for Lemhi County and $154.6 million for Custer County. 1991 sales for each subregion were as follows:

Subregion	**Total Industry Sales**	**% of Region**
Salmon	$120,652,400	41.4
North Fork	$4,728,100	1.6
Tendoy-Leadore	$11,176,800	3.8
Lemhi County	$136,557,300	46.9
Challis	$114,276,900	39.2
Pahsimeroi	$7,100,100	2.4
Stanley	$7,323,300	2.5
Big Lost River	$25,909,900	8.9
Custer County	$154,610,200	53.1
Total Region	$291,167,500	100.0

Expenditures for Public Goods and Services

In 1991, total expenditures for public goods and services approximated 6.1 million dollars for Custer County and 7.2 million dollars for Lemhi County. Funds for these goods and services are primarily derived from two sources: local tax revenues and non-local aid.

Total revenues from personal, real, and operating taxes in 1991 were about 2.3 million dollars for Custer County and 2.6 million dollars for Lemhi County. In 1991, non-local aid for public goods and services exceeded 3.5 million dollars for Custer County and approximated 5 million dollars for Lemhi County. Annual non-local aid to the two-county area is in the form of payments in lieu of taxes, shared Federal timber and grazing receipts, and Federal and State funds and grants.

Because the two-county region has acreage in public ownership (93% of Custer County; 91% of Lemhi County), each county is designated a sharing of Federal revenues called payments in lieu of taxes (PILT) as a substitute for real property taxes. Custer County receives approximately $207,000 per year as PILT and Lemhi County receives approximately $265,000 per year as PILT (1991). Other shared Federal receipts include timber receipts (from Forest Service lands) of $731,000 in Lemhi County and $95,000 in Custer County (1992) and grazing receipts (from BLM lands) of $14,000 in Lemhi County and $8,000 in Custer County (1993). Both counties also receive Federal and State funds and grants to help pay for mandated programs intended to provide for the health and safety of residents.

Business Development and Operations

The two-county region's trade pattern is hierarchial in nature, from smaller to larger communities The trade flow extends beyond the region to nearby population centers such as the Bitterroot Valley and Missoula, in Montana, and Idaho Falls in southeastern Idaho. From Salmon, it is often easier to travel to Missoula (142 miles) than to Idaho Falls (162 miles) for those goods and services that are not readily available locally. Most goods and services brought into the region are transported via Missoula, Idaho Falls, or Boise.

Ongoing mineral development could foster local economic growth (primarily in Salmon and Challis) as population, employment, and disposable income increase as a result of mine construction and operation. Secondary businesses which support the mining operations may develop locally if non-local businesses are not competitive. This could encourage local economic growth in general, with potential for businesses unrelated to the mines (*e.g.*, fast food restaurants) and other services to become established.

Declining beef cattle prices in 1994 recently affected profitability in the agriculture sector (cash sales per cow declined about 17 percent from 1991 levels). This downward trend continued in 1995, and, according to Chuck Lambert, Denver-based chief economist with the National Cattlemen's Association, "cattle prices are expected to remain low at least until late this year [1996] and perhaps into next year" (Kohler 1996). Supplies of cattle are expected to rise through most of the 1990s and put further downward pressure on prices (Gray 1996). Factors contributing to low beef prices and/or an abundance of cattle on the market include higher feed-grain prices and competition from abundant supplies of pork and poultry (*Idaho Outlook* 1995). If profitability declines enough, expenditures for goods and services related to raising beef cattle may decline, with possible negative impacts on the local economy. Profitability in the local livestock industry may also be affected by public policies which establish guidelines for livestock management on public lands, in order to address concerns about the environment.

Statistics indicate the area has developed a substantial economy associated with visitors to the area (22.71% of employment and 14.06% of earnings). Visitor and local resident expenses for hunting or fishing have economic importance on a local, and possibly regional, level (see *Appendix B, Item 6: Economic Values of Select Wildlife Species* and *Item 7: Economic Values of Fisheries Resources*, pp. 605-609). About one-fourth of recreation visits to the Resource Area in 1993 were for hunting (2.9%) or fishing (22.5%) activities (see ***Chapter 3*** - Recreation Opportunities, Visitor Use, and Off-highway Vehicle Use, *Table 3-13: 1993 Recreation Visits to the Challis Resource Area*, p. 262). Lemhi County experienced consistent growth in the service sector from 1969 to 1991; medical, educational, social, recreational, and lodging services doubled during those 22 years. Custer County experienced consistent growth in the retail trade sector during this same timeframe. This trend in the growth of tourism-related business is expected to continue, since the area continues to be a popular vacation spot. Businesses in Salmon, Challis, and Stanley are likely to benefit the most from tourism, since visitors tend to spend money for lodging, groceries, souvenirs, etc. in those communities and just "pass through" the smaller towns. However, growth in this sector would likely have only minimal benefit to the local economy in general, because jobs associated with visitors to the area are generally low wage and seasonal (note the discrepancy between percent of employment and percent of earnings for this sector).

The local timber industry is affected by fluctuating supplies of logs from local sources (primarily Forest Service timber sales). As recently as 1995, the largest mill in the two-county region closed because of a stated lack of a sufficient, affordable timber supply (*Idaho Employment* 1995). However, the fairly recent substantial increase in the regional price of wood products (due to vastly reduced supplies of timber from the Pacific Northwest) could increase the profitability of local businesses which produce or market wood products (assuming businesses do not incur increased costs to harvest and produce the wood products). (Also see ***Chapter 3*** - Forest Resources, "Local Demand for BLM Forest Products.")

Locally, the Federal government has begun a general trend to downsize, and dozens of employees have chosen to retire early or seek other employment options. Most of the "eliminated" positions were full-time and well-paid, with benefits. However, many of those who retired have remained in the local communities and will be receiving substantial non-wage income (pensions). Some seasonal jobs which have been "eliminated" may be replaced by local contracting, so no net loss in employment may result.

Society and Culture

Most persons interviewed during a recent sociological study of the two-county area expressed a common desire to maintain the existing culture for their children and grandchildren. They highly valued a rural, agrarian lifestyle and felt their communities were good places to raise children. The ability to stay in (or come back to) the area was very important to many respondents. Although residents recognized the benefit of developments such as mines and new home construction and appreciated the contributions made by in-migrants, they wanted to maintain a "small cow-town" atmosphere despite times of "boom" or more steady economic development and population growth. However, respondents differed greatly in how they thought this balance between development (especially in the service sector) and ongoing rural resource use (mining, ranching, timber harvest) should be achieved.

The sociological study identified three predominant attitudes regarding land and resource use. Attitudes "a" and "b" are very similar, but distinctly different from attitude "c."

a) Resources have value when they are used by a society to meet its wants and needs. Customary uses are *assumed* to be rights. The local community should be the locus of control for decisions about resource use.

b) Resources have value when they are used by a society to meet its wants and needs. Current land and water rights have been determined through customary use, and these rights are *codified* through water allocations and grazing allotments, not just assumed. The local community should be the locus of control for decisions about resource use. Persons who live in the community should contribute to the community socially and politically.

c) Resource use is defined within the context of conservation and quality of life. Long term stewardship and legislated rights are of primary importance, and rights based on customary use are of secondary importance. The locus of control for resource use decisions should be within the extra-local, legal sphere.

The majority of respondents adhered to attitudes "a" or "b," which emphasize either assumed or codified rights through continuing use. Some respondents in the Stanley and Salmon subregions felt that mining, ranching, and timber harvest have been viewed as the only "traditional uses," and recreation should also be recognized as a "traditional" resource since it has had economic value and customary use since at least the 1940s.

As mentioned earlier, the economies of the Pahsimeroi, Big Lost River, and Tendoy-Leadore subregions are primarily agricultural. Ranching determines the community identity in these areas, and ranchers provide the backbone of local merchants' business. Except for the Tendoy-Leadore subregion, which has varying degrees of reliance upon public land, ranchers rely heavily upon public lands for grazing. Persons in these three subregions shared the following attitudes: the right to water allocations and grazing allotments through customary use, the right to participate in decisions which directly affect where they live (*i.e.*, local control of resource decisions), the importance of hard work and self-sufficiency, and a willingness to help one's neighbor.

Although the Challis subregion's economy is predominantly based on mining, ranchers have provided community stability for decades. Most persons felt mining on public lands should not be stopped in the interest of other resource uses. A few indicated that mineral resources are being "given away," with little long term benefit to the local community. This subregion expressed the strongest view that the local community should maintain control over resource allocations. They felt threatened by public policies which alter public land management, and frustrated that decisions about their livelihoods could be made outside the community.

The society of the Stanley subregion differs greatly from the remainder of the two-county region. Persons interviewed felt socially, politically, culturally, and economically isolated from the rest of the region. Although the Stanley subregion used to have a ranching and mining economy, the area is now solely reliant upon tourism and government employment. The population is diverse and seasonally transient -- 90 percent of homes are for seasonal or occasional use. Persons in this area viewed recreation use on public land as a right similar to grazing and mining. They felt it is a nondestructive resource use which should be given precedence, because it produces economic activity without extracting physical resources.

The North Fork subregion has an economic history of mining and timber harvest, but today has a predominantly tourist economy. Recreation (outfitters and guides), timber, and mining are all traditional resource uses of public land that local persons felt are rights, rather than privileges; they indicated that generations have used the land without destroying it. Although the North Fork area experiences considerable visitor traffic flow, many visitors are "just passing through" and spend little or no money in the area.

The Salmon subregion has a diverse economy with a long history of ranching, mining, timber harvest, and guided recreation. Persons associated with the timber industry indicated timber harvest is a sustainable industry (timber is a renewable resource), has a good record of stewardship, and provides an example of how the needs of people and the environment can be balanced. Ranchers adhere to the attitudes of customary use and legal rights to water and grazing, the importance of sharing labor, equipment, and expertise, and the need to manage resources responsibly and voluntarily. Recent economic changes have made the river-bottom land along the Salmon and Lemhi rivers attractive for home development; as a result, ranches that are sold are often parceled for housing. The persons interviewed did not want Salmon to become "suburbia," but they also recognized the right of ranchers to dispose of their land as they wish. Although statistics indicate Salmon has a substantial tourist economy (24.84% of employment and 19.67% of earnings), only some recognized the area has a growing tourist economy.

Fire Management.

Law, Regulation, and Policy

Major authorities which pertain to fire protection and management include the following:

Protection Act of September 20, 1922 (16 U.S.C. 594).
Taylor Grazing Act of June 28, 1934 (43 U.S.C. 315).
Reciprocal Fire Protection Act of May 27, 1955, as amended (42 U.S.C. 1856, 1856a).
Economy Act of June 30, 1932 (31 U.S.C. 686).
Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*).
Disaster Relief Act of May 22, 1974 (42 USC 5121).
Wildfire Prevention Regulations found in 43 CFR 9212.
Annual Appropriations Acts for the Interior and Related Agencies.
Interagency Agreement among the Salmon District BLM, the Salmon National Forest, and the Challis National Forest (June, 1993); and Annual Operating Plans under that agreement.
Cooperative Fire Protection Agreement (No. 1422-D-910-A-6-0203) among the BLM, National Park Service, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, U.S. Forest Service, and Idaho Department of Lands (April 17, 1996); and Statewide 'Annual Operating Plans under that agreement.

Affected Environment

The BLM's Upper Columbia-Salmon Clearwater Districts (UCSC), Salmon Field Office has an interagency agreement with the Salmon and Challis National Forests to provide initial attack for fires occurring on 700,000 acres (88.3%) of the 792,567 acre Challis Resource Area. Lands in the northern portion of the Resource Area (closer to Salmon, Idaho) are protected by the UCSC Districts, Salmon Field Office, BLM.

Fire activity in the Resource Area due to unplanned ignitions has been low; few acres have been affected and fire intensities have been low. Based on the last fire activity planning cycle (1980-1991), the Challis Resource Area averaged 20 fires per year and 250 acres burned annually. No large fire activity occurred during this planning cycle. The largest fire was 875 acres, and most fires were fewer than 0.5 acres. Forty percent of all unplanned fires were person-caused; these fires were generally associated with rural dumps and some agricultural burning. The remaining 60% were caused by lightning.

Prescribed fire has been used in the Resource Area on a limited basis. Since 1980, approximately 3,234 acres in 13 prescribed burns have been treated (Source: Rangeland Improvement Projects System database, 1992). Prescribed fire has been used occasionally in the timber program for slash and road debris cleanup following timber sales. Prescribed fires are generally planned ignitions, since only the seven Wilderness Study Areas in the Resource Area are presently managed with a conditional suppression strategy. Because of increased national emphasis on ecosystem management, prescribed fire is expected to be used more in the future in order to sustain healthy ecosystems.

"Fire has played a major role in shaping east-central Idaho ecosystems. These ecosystems are adapted to periodic fire which occurred until fire suppression began in the early 1900s" (USDA 1995). Wright and Bailey (1982) speculated that the probable frequency of fire for sagebrush-grass areas of eastern Idaho would be about 50 years, with fire frequencies for the driest sagebrush communities as low as 100 years. A recent study of the Lost River Range forested types (Haslett 1995) concluded "suppression of fires has prevented the development of moderate to severe fires while keeping their intensities light... Further exclusion of fire within the Lost River Range will continue this trend, changing the natural succession of the forest ecosystems. This could cause extensive fuel loading and overcrowding of the conifer cover types. The resulting effect could cause extensive, severe uncontrollable fires that are an unnatural successional event."

Vegetative habitat conditions in the Challis Resource Area are thought to have changed as a result of reduced acreage burned in low intensity prescribed or wild fires (due to a full suppression strategy since the early 1900s). Sagebrush densities on grassland habitats are believed to have increased, leading to reduced forage quantity and reduced nutritional quality. In forested types, fire suppression is thought to have led to increased ladder fuel buildup; overstocking; poor growth (decadent stands); reduced nutrient cycling due to an increased woody debris layer; increased risk of insect/disease epidemic due to increased competition for soil nutrients, water, and light; changing species composition; and increased risk of stand-replacing fire.

Fisheries.

Law, Regulation, and Policy

Fisheries management on BLM public lands is authorized under the following laws, executive orders, and plans. An expanded description of some of the legislation listed below is provided in *Appendix E, Item 1*, pp. 638-643.

1) Federal Land Policy and Management Act of 1976 (FLPMA).
2) Wild and Scenic Rivers Act of 1968, as amended.
3) Fish and Wildlife Coordination Act of 1958.
4) Sikes Act of 1974.
5) Executive Order 11987 of May 1977.
6) Executive Order 11988 of May 1977.
7) Executive Order 11990 of May 1977.
8) Executive Order 12088 of 1978.
9) National Environmental Policy Act of 1969.
10) Clean Water Act of 1977, sections 303 and 404.
11) Idaho Stream Channel Protection Act (Title 42 Chapter 38, Idaho Code).

Regulations and policies which also apply to fisheries management are generally derived from interpretation and implementation of statutes and executive orders. They include, but are not limited to, the following: Supplemental Program Guidance (Manual Section 6600); *Fish and Wildlife 2000* (BLM National, State, and District policies); Memoranda of Understanding applied to specific situations; Conservation Agreements; Cooperative Agreements; *Interim Strategies for Managing Anadromous Fish-producing Watersheds in Eastern Oregon and Washington, Idaho, and Portions of California* (BLM-USFS February 1995); and others. In addition, the BLM manages fisheries habitat and other trust resources in the Challis Resource Area in order to provide opportunities for the Shoshone-Bannock Tribes to satisfy their treaty rights granted in the Fort Bridger Treaty of 1868.

Special Status Fish Species: The above statutes, executive orders, regulations, and policies generally apply to all special status fish species as well. In addition, all threatened, endangered, or sensitive (TES) fish species (see *Glossary*: threatened species (p. 184); endangered species (p. 171); sensitive species (p. 182)) are managed according to the regulatory and policy mandates set forth in 50 CFR 400 and Special Status Species Manual 6840, a derivative of 50 CFR 400. The Endangered Species Act of 1973, as amended, provides for the protection of threatened or endangered species and their habitats, and requires Federal agencies to ensure that the continued existence of listed species is not jeopardized and the designated "critical habitat" of listed species is not destroyed or adversely modified.

Affected Environment

Fisheries Population Distribution, Size, Trend, and Management

The Challis Resource Area contains six resident salmonids -- rainbow trout (*Oncorhynchus mykiss*), westslope cutthroat trout (*Oncorhynchus clarki lewisii*), brook trout (*Salvelinus fontinalis*), bull trout (*Salvelinus confluentus*), kokanee salmon (*Oncorhynchus nerka*), and mountain whitefish (*Prosopium williamsoni*) -- and three anadromous salmonids -- chinook salmon (*Oncorhynchus tshawytscha*), sockeye salmon (*Oncorhynchus nerka*), and steelhead rainbow trout (*Oncorhynchus mykiss*) -- collectively referred to as game species. The Salmon River is also historic habitat for the Columbia River white sturgeon (*Acipenser transmontanus*); however, the current distribution of this species within or adjacent to the Resource Area is not known at this time. The general distribution of known anadromous and resident game species is shown on *Map 2: Anadromous and Resident Fisheries Occupied Habitat* and listed in *Appendix C, Item 1: Game Fish Species Distribution by Drainage and Stream* (pp. 610-612).

The main Salmon River, East Fork Salmon River, and Pahsimeroi River are the major chinook salmon and steelhead trout spawning and rearing waters in the RA. The main Salmon River is also a migration corridor for the sockeye salmon. The East Fork Salmon River is one of the most important tributaries for anadromous fish production in the entire upper Salmon River. Historically, the Pahsimeroi River was a prime spawning and rearing stream for both steelhead trout and chinook salmon. Portions of smaller tributaries in the RA also support limited runs of anadromous fish or have high anadromous fisheries potential (see *Appendix C, Items 1* and *2*, pp. 610-615). Although anadromous fish may not always spawn in these smaller tributaries, they are often used as rearing habitat by young fish seeking relief from large stream conditions such as predators, limited food supply, and warm water temperatures.

Resident salmonid populations are broadly distributed in the RA, reflect low to moderate abundance, and, depending on the stock or population being considered, seem to indicate either downward or relatively stable population trends.

In general, anadromous fish populations reflect low to very low abundance, and show downward population trends. It is likely that sport harvest of all anadromous fish will cease in the near future, as these stocks continue to decline. Chinook salmon and steelhead trout are managed by a combination of natural reproduction and hatchery produced fish. The majority of steelhead trout and chinook salmon destined for the Pahsimeroi River are collected at a hatchery near its mouth and held for egg collection. All natural summer chinook salmon (no fin clip) and all those which are part of the Idaho Supplementation Program (left ventral fin clip) are released above the hatchery to spawn naturally (Idaho Department of Fish and Game, January 6, 1997). The number of wild steelhead rainbow trout remains low. Since 1982, returns of hatchery-produced steelhead rainbow trout have been adequate in most years to support a harvest of 2 to 10 fish per season per licensed fisherman. Chinook salmon, which once provided a viable sport fishery in the upper Salmon River (see *Appendix B, Item 6: Economic Values of Fisheries Resources in the Challis Resource Area*, pp. 605-607), have been at extremely low levels since 1980 (see *Appendix C, Item 3: Counts of Spring Chinook Salmon Redds, 1960 to 1987*, pp. 616-617) and have not been harvested since 1977. Sockeye salmon migrate through the Resource Area within the Salmon River as both adults and smolts.

Nongame fish species include Pacific lamprey (a State of Idaho listed endangered species); large scale, small scale, and bridge lip suckers; Columbia River squawfish; long nose and speckled dace; shorthead, Piute, and mottled sculpin; and redside shiner. These nongame species are most prominent in the main Salmon River and its larger tributaries, although several of the species are found in most watersheds.

Fisheries Habitat Location and Condition

Seventy-five major fisheries streams totaling 535 miles lie within the RA boundary (see *Map 2: Anadromous and Resident Fisheries Occupied Habitat*). Three hundred two (302) miles cross BLM lands and 233 miles cross either private or State lands. Approximately 172 miles of stream are inhabited by both resident and anadromous fish, and 363 miles have only resident fish. All stream habitats on Federal land are managed by the BLM or Forest Service; fisheries populations are managed by the State of Idaho's Department of Fish and Game.

The approximate habitat condition ratings for the major fishery streams in the RA are <1% excellent, 50% good, 30% fair, and 20% poor. Good condition streams exist primarily along the main Salmon River and its larger tributaries. Most smaller streams are in fair condition and could use some improvement. *Appendix C, Item 4*, pp. 618-619 provides stream ownership information and condition ratings for important fisheries streams of the Challis RA, by drainage. *Appendix C, Item 5*, pp. 620-626 summarizes the fisheries habitat condition of some important drainages in the RA.

Factors Affecting Fisheries Habitat and Production

Limiting factors for anadromous and resident salmonid spawning and rearing are summarized in *Appendix C, Item 6: Anadromous and Resident Fish Life Histories and Habitat Requirements*, pp. 628-631.

Due to the high natural mortality on young fish, good spawning grounds are critical for good resident and anadromous salmonid production. Spawning habitat for resident trout consists of gravels 0.25 to 2.5 inches in diameter, with water velocities ranging from 0.5 to 2 cubic feet per second. Chinook salmon and steelhead trout prefer gravels 3 to 6 inches and 0.5 to 4 inches, respectively. Salmonids avoid heavily silted areas when spawning. Gravels containing in excess of 20% fines are considered less then desirable and are not utilized to any appreciable degree. Egg survival decreases markedly when fines exceed 20%. Substrate embeddedness in the Salmon River and its major tributaries generally falls in the 33% embeddedness category, with only Bayhorse Creek showing significant reaches of <20% embeddedness. Big Hat Creek and Little Hat Creek are rated as 66% and 83% embeddedness, respectively. *Appendix C, Items 2* and *7* (pp. 614-615 and 632-633) provide detailed information on the stream characteristics and existing and potential spawning and rearing habitat conditions for some important fisheries streams within the RA.

Factors limiting resident or anadromous fisheries habitat and production in the RA include (a) fishery losses through unscreened irrigation diversions (particularly outmigrating salmon and steelhead smolts) (*Appendix C, Item 8*, pp. 634-635 provides additional information on irrigation diversion structures and their effects on fisheries resources in the Challis RA); (b) dewatering of stream channels for irrigation; (c) riparian systems which are non-functional or functional-at-risk; (d) stream channel alterations; and (e) siltation. (For a detailed explanation of how the above factors limit fish habitat see ***Chapter 4*** - Fisheries, "Introduction", pp. 357-359.)

Anadromous fish production in a natural environment is primarily limited by two "habitat" requirements and one "population" requirement: (1) suitable spawning gravels must be available for the successful incubation of eggs; (2) the stream habitat (*e.g.* pool quality and quantity, canopy cover, instream cover) must be suitable for rearing fry and smolts to provide adult returns equal to the preceding spawning population; and (3) spawning fish must be available. One or more of these requirements limit the potential value of most of the Salmon River tributaries. More specifically, the factors affecting anadromous fish spawning and rearing *habitat* on the main Salmon River in the Challis Resource Area include (a) surface water depletion from irrigation diversions, (b) riparian degradation and associated loss of rearing habitat, and (c) the loss of outmigrating smolts at unscreened diversions.

Other factors currently limit anadromous fish survival outside Resource Area boundaries. These factors are important to consider, since anadromous fish complete most of their life cycle outside the waters where they are spawned and reared. They spend several weeks migrating to and from the ocean (see *Map 1: Anadromous Fish Migration*) and one to three years of their adult life in the ocean. Examples of factors which dramatically affect anadromous fish mortality outside the RA boundary include (a) adverse migration conditions (*e.g.*, slack water above dams, which lengthens the time needed to complete migration); (b) dam turbines, which kill fish or stun them so they are easily preyed upon downstream; (c) river or ocean fisheries which harvest anadromous fish or the fish species upon which they feed; and (d) degraded river or off-shore water quality (*e.g.*, toxic contamination, siltation). One or more of these factors may affect the availability of spawning fish returning to waters in the Challis Resource Area. These are factors which are beyond the control of the Challis Resource Area. In addition, much of the available habitat in the region is on private land; management of that land is also beyond the control of the BLM. Currently, the Challis Resource Area has more available, adequate spawning habitat than is being utilized by anadromous fish. Even if all the BLM-managed habitat in the Challis Resource Area was in excellent condition, the production capacity of anadromous fish would be limited by the availability of spawning fish.

Sport and Tribal Fisheries

Primary sport and tribal fish species are rainbow trout, steelhead rainbow trout, westslope cutthroat trout, brook trout, mountain whitefish, and kokanee salmon. The RA's most popular resident fisheries streams are the main Salmon River, upper Pahsimeroi River, and Big Lost River. Mackay Reservoir is a very popular year round fishery for rainbow trout and kokanee salmon, and one of the most popular ice fishing spots in east central Idaho. Tributary streams throughout the RA are also used for sport or tribal fishing.

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Resident salmonids are fished for during the summer months, and hatchery produced steelhead rainbow trout are fished for from October through April. Some rainbow trout stocking occurs in the area, primarily in the main Salmon River. However, most fishery resources in the RA are managed as wild trout fisheries under State of Idaho general sport fishing regulations.

Wild and natural steelhead trout may not be legally harvested anywhere within the State of Idaho. Hatchery steelhead trout may only be harvested below the confluence of the Salmon River and Redfish Lake Creek. (Note: Natural steelhead (offspring from hatchery fish) and wild steelhead can be distinguished from hatchery fish by their adipose fin. The adipose fin is removed from hatchery-reared smolts prior to being released into the Salmon River.) The spring/summer chinook salmon and sockeye salmon also may not be legally harvested in the RA (except for harvest permitted under Native American treaty rights). The 1994 to 1995 fishing regulations imposed a Statewide closure on the harvest of bull trout. Any white sturgeon caught while sport fishing in the RA must be released.

Each year, anglers fishing streams in the RA spend large amounts of money for fishing-related expenses such as license fees, tackle, food, lodging, fuel, boating, guide services, and camping. The estimated historic and current economic value of resident and anadromous fisheries resources in the Challis Resource Area is described in *Appendix B, Item 6*, pp. 605-607.

Special Status Fish Species

Threatened and Endangered Species:

The National Marine Fisheries Service has listed Snake River spring/summer chinook salmon and steelhead trout stocks as threatened and sockeye salmon as endangered under the provisions of the Endangered Species Act of 1973. Current or historic spawning and rearing habitats for chinook salmon and steelhead trout are located along the main Salmon River, East Fork Salmon River, Pahsimeroi River, Herd Creek, and some smaller tributaries of those rivers (see *Map 2: Anadromous and Resident Fisheries Occupied Habitat* and *Appendix C, Item 1: Game Fish Species Distribution by Drainage and Stream*, pp. 610-612). The main Salmon River is a migration corridor for sockeye salmon which spawn in the upper Salmon River at Redfish Lake.

The bull trout was listed as a threatened species in June of 1998. Bull trout are found in all the tributaries of the Pahsimeroi River from Little Morgan Creek through the two forks of the upper Pahsimeroi River. The upper segment of the drainage is isolated from the rest of the Salmon River system by the natural sinks near Goldburg Creek. This isolation makes this section of the Pahsimeroi River valuable for management and research. Bull trout are also found in the main Salmon River and some tributaries of the East Fork Salmon River. Bull trout are found in conjunction with westslope cutthroat trout throughout most areas of their range in the RA, in approximately equal numbers. Bull trout are especially sensitive to habitat changes, in that they require very cold, high quality water. They are also vulnerable to population alteration in streams which are occupied by brook trout, because both species are fall spawners and cross-breeding produces sterile offspring. The BLM is currently a partner in the State of Idaho's bull trout conservation strategy, which was created to foster quality habitat and population recovery of bull

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trout.

Sensitive Species:

Westslope cutthroat trout, the Idaho State fish, is managed as a sensitive species based on the Idaho Department of Fish and Game's Idaho Conservation Data Center data. BLM policy dictates that sensitive species must be managed as though listed under the ESA in any management planning.

Although broadly distributed throughout the RA, westslope cutthroat trout primarily inhabit the more remote tributaries where the competitive rainbow trout is absent. Westslope cutthroat trout and rainbow trout are spring spawners and can readily interbreed in drainages where both species are present. Westslope cutthroat trout are especially vulnerable to habitat changes (such as those imposed by man's land use activities), over-harvesting, and the effects of rainbow trout introductions (competition and cross-breeding).

Forest Resources.

Law, Regulation, and Policy

The Material Disposal Act of July 31, 1947, as amended, provides authority to dispose of timber or other forest products. Authority to enforce this Act and manage forest lands under the principles of multiple use and sustained yield are outlined in the Federal Land Policy and Management Act of 1976 (43 USC, 1701 *et seq.*).

The Public Domain Forest Management Policy Statement (BLM 1991) states that the BLM will "manage to maintain desired forest ecosystems," while striving to "meet public needs for commodity and non-commodity benefits and uses." The Policy also states that these objectives will be met by adhering to these standards: the BLM's planning process will be used to determine objectives; reforestation will be completed in a timely manner; the forestry program will be managed efficiently (both forest management and public service); practices will reflect the long term cycle of forest management; inventories will be maintained; sale offerings will be consistent with public demand, while maintaining even flow over time; fair market value for products will be received; and unauthorized use will be prevented.

The BLM's "Our Growing Legacy" forestry mission statement (1993) declares that the "BLM will manage the public forests and woodlands to maintain and enhance the health, productivity and biological diversity of these ecosystems...consistent with the principles of multiple use and sustained yield."

The Idaho Forest Practices Act, Title 38, Chapter 13, Idaho Code, provides rules and regulations governing forest practices on all lands in Idaho. Rules pertain to timber harvest, road construction and maintenance, reforestation, use of chemicals, slash management, and practices bordering water quality limited stream segments (see *Glossary*, p. 186).

Affected Environment

The Challis Resource Area contains 58,461 acres of forest lands, based on the most recent (1984) Timber Production Capability Classification (TPCC) inventory. Forest lands account for approximately 7.4 percent of BLM administered lands within the RA. The distribution of forest lands in the RA is shown on *Map D: Forest Lands*. Forest management activities occur irregularly on RA lands because (a) forest lands occupy small, scattered portions of the RA, and (b) all commercial forest lands are in areas which indicate management difficulties: fragile sites, problem reforestation sites, or adverse locations.

Table 3-4: Forest Land Classifications for the Challis Resource Area, displays the acreage within each forest land classification. Forest land is defined as ten or more acres capable of being ten percent stocked by forest tree species, and not currently developed for non-timber use (Timber Production Capability Classification, BLM Manual 5251, 1990). Of the 58,461 acres of forest lands in the RA, 30,987 acres (53%) are classified as *commercial forest land*. Commercial forest land typically provides sawtimber, and this land base is used to determine the annual allowable cut. The remaining forest lands (47%) are classified as *woodland* (27,474 acres). Woodland is used to provide forest resources such as firewood and Christmas trees, and is *not* used in the determination of the annual allowable cut.

Forest Communities

Forest lands usually occupy northerly aspects, particularly at lower elevations which receive less precipitation (because of greater moisture retention on north slopes). Approximately 85% of forest lands in the RA are dominated by pure stands of Douglas-fir (*Pseudotsuga menziesii*), with small inclusions of lodgepole pine (*Pinus contorta*), subalpine fir (*Abies lasiocarpa*), Engelmann spruce (*Picea engelmannii*), whitebark pine (*Pinus albicaulis*) and limber pine (*Pinus flexilis*). Ponderosa pine (*Pinus ponderosa*) occurs rarely in the RA, although attempts were made to plant ponderosa pine in the Thompson Creek area (many of these trees succumbed to porcupine damage). Low elevation woodlands are occasionally comprised of pure stands of Rocky Mountain juniper (*Juniperus scopulorum*), as in Upper and Lower Cedar creeks above Mackay. Limber pine (about 4% of forest lands) is dominant in low elevations on calcareous soils at the edges of forest lands in portions of the Lemhi and Lost River ranges. Quaking aspen (*Populus tremuloides*) and black cottonwood (*Populus trichocarpa)* occupy sites where surface or subsurface water occurs (about 3% of forest lands). The remaining 8% of forest lands are comprised of whitebark pine, which is dominant at high elevations throughout the RA at or near the upper limits of forest vegetation. It often occurs in association with subalpine fir at these elevations, and both tree species often exhibit deformation caused by wind and driven snow. Whitebark and limber pines are probably the oldest trees in the RA, with some trees exceeding 1,000 years. Pure stands of lodgepole pine are occasional throughout the RA in elevations immediately below the subalpine zone, with the largest stands occurring in the Thompson Creek area. The Donkey Hills supports some stands of pure lodgepole pine on north slopes at low elevations, probably regenerated by fires occurring over 150 to 200 years ago. Engelmann spruce dominates some areas around riparian zones,

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usually in association with subalpine fir. Both of these species will occur sporadically throughout higher elevation Douglas-fir stands, and their infrequent occurrence at lower elevations usually suggests the presence of subsurface moisture.

Table 3-4: Forest Land Classifications for the Challis Resource Area

COMMERCIAL FOREST LAND		
Fragile Sites		
Soils	161 acres	
Slope Gradient	367 acres	
Ground Water	4 acres	
Hydrology	52 acres	
Geologic Material	1,456 acres	
Combination	7,754 acres	
Total Fragile Sites	9,794 acres	(17%)
Problem Reforestation Sites		
Heat and Drought	3,434 acres	
Inadequate Moisture	8,940 acres	
Debris and Brush	77 acres	
Inadequate Light	84 acres	
Soil Movement	33 acres	
Combination	6,674 acres	
Total Problem Reforestation Sites	19,242 acres	(33%)
Adverse Location	1,951 acres	(3%)
Total Commercial Forest Land	**30,987 acres**	**(53%)**
WOODLAND		
Suitable Woodland		
Non-Commercial Species	8,797 acres	
Low Site	16,308 acres	
Total Suitable Woodland	25,105 acres	(43%)
Non-Suitable Woodland		
Fragile Site	2,026 acres	
Problem Reforestation	343 acres	
Total Non-Suitable Woodland	2,369 acres	(4%)
Total Woodland	**27,474 acres**	**(47%)**
TOTAL FOREST LAND	**58,461 acres**	**(100%)**

Source: *Figures are compiled from the 1984 Timber Production Capability Classification inventory.*

Low elevation Douglas-fir forests are characterized by open, savannah-like stands of Douglas-fir where regeneration is uncommon and the understory is comprised of grasses (primarily bluebunch wheatgrass (*Agropyron spicatum*) and Idaho fescue (*Festuca idahoensis*)) and shrubs. The most common shrub species associated with these dry forest sites are common juniper (*Juniperus communis)*, mountain snowberry (*Symphoricarpos oreophilus*), and curl-leaf mountain mahogany

(*Cercocarpus ledifolius*). Understory vegetation is often nonexistent in areas of heavy overstory cover, due to moisture limitations created by canopy interception loss and tree root competition. The upper layer of the soil is covered by duff comprised of twigs, fir needles, and often cones; in areas where wildfires have occurred, exposed mineral soil is prevalent. Where it occurs, regeneration in low elevation Douglas-fir forests is usually associated with small openings where snow deposition can occur. These are openings that are big enough to allow snowfall through the canopy, yet small enough to maintain shade through the winter and early spring. Large amounts of regeneration can usually be found just inside the windward edges of forested areas, where wind deposits large quantities of snow.

Age and Size Classes

Approximately 85% of forest lands in the RA are comprised of stands dominated by sawtimber size classes with trees greater than 10" diameter breast height (DBH) in varying age classes. Most of the remainder is pole-size material. The majority of forest stands could generally be described as even structured and uneven-aged. Ages of overstory Douglas-fir range from 100 to 400 years old and average approximately 200 years old. Many stands were initiated by catastrophic fire, creating an even-aged stand, but understory burns and ingrowth have introduced more age classes into most stands. In areas where harvesting and recent fires have occurred, stands may be dominated by seedlings and saplings (less than 3" DBH); this is probably less than 5% of forest lands, because most harvested areas still have an intact overstory that dominates. Throughout most of the Douglas-fir forests, Douglas-fir seedlings and saplings commonly occupy small (less than .25 acre) openings throughout the forest canopy. Larger openings often create droughty conditions which are not conducive to natural regeneration. Very small seedlings (less than 4" tall) occur regularly under larger trees, although many of these eventually succumb to moisture stress from the competing overstory. In higher elevations in the Douglas-fir cover type, vigorous subalpine fir seedlings, saplings, and poles occupy much of the understory because they are shade tolerant and increased moisture is available at higher elevations.

Although no inventory data currently exist, it is estimated that up to half (50%) of commercial forest land acres in the RA have old growth characteristics, as stated in the "Characteristics of Old Growth Forests in the Intermountain Region" (USFS Intermountain Research Station, R.C Hamilton editor, 1993). These characteristics include the following: (a) the area contains an average of 10 trees per acre of 18" DBH, greater than 200 years old; (b) two or more diameter classes exist, creating at least two layers in the canopy; (b) snags (usually 2 to 15 per acre, 16" DBH, and 10 feet long) occur throughout; and (d) down, woody material is infrequent. According to these characteristics, even some logged areas in the RA would fit an old growth classification.

Forest Health

Exact forest health conditions are difficult to assess, due to the lack of concurrent inventory and evaluation data.

Insects: Insect infestations are sporadic and, for the most part, insignificant throughout the RA. Occasional outbreaks of Douglas-fir beetle (*Dendroctonus pseudotsugae*) which cause some

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mortality have been noted throughout the RA, particularly in the Thompson Creek area; most of these infestations occur in low elevation, non-commercial forest lands. Many outbreaks probably result from stress due to reduced precipitation during the last 5 to 10 years. Western spruce budworm (*Choristoneura occidentalis*) infestations are common in most of the RA, although mortality rarely results. Understory regeneration (or uneven structure) in Douglas-fir stands throughout the RA increases the risk of a spruce budworm epidemic and subsequent reduced vigor or increased mortality. New growth on regeneration can be severely limited or deformed, although climatic conditions affect whether budworm will defoliate (and kill) a tree. Mountain pine beetle (*Dendroctonus ponderosae*) is an occasional cause of mortality in the small areas of lodgepole pine, whitebark pine, and limber pine which occur in the RA, as is spruce beetle (*Dendroctonus rufipennis*) in Engelmann spruce.

Diseases: Less is known about disease conditions in the RA. Dwarf mistletoe (*Arceuthobium douglasii* and *Arceuthobium americanum*) infection of Douglas-fir and lodgepole pine is the major disease problem in the RA. Dwarf mistletoe causes reduced growth, deformation, and often mortality. The reduced vigor caused by dwarf mistletoe can increase susceptibility to secondary agents such as insects, other diseases, or moisture stress, which further reduce vigor or result in mortality. Dwarf mistletoe infections occur on trees throughout the RA, with major infection centers in the Donkey Hills and Morgan Creek. Lodgepole pine populations are probably infected by various fungal rusts, although no data are available. These cause deformation and, in some cases, mortality, particularly in young trees. White pine blister rust (*Cronartium ribicola*), an introduced disease, affects five-needle pines such as whitebark pine and limber pine. It causes cankers which result in topkill or the death of affected trees.

Stand Vigor: The greatest forest health problem in the RA is probably reduced stand vigor because of overstocking. Decreased vigor increases risks of tree or stand mortality because dead or dying trees have greater susceptibility to insects, diseases, or stand replacing fires. Fire risk increases with the accumulation of dead material on the forest floor and the dense stocking that is characteristic of these stands. Large scale stand-replacing fires also pose threats to long term site productivity, because these fires can degrade soils through loss of organic matter, loss of water holding capacity, and destruction of soil biota. Although stand-replacing fires have always occurred in the area, present conditions are such that the scale of stand replacement may be unprecedented.

Overstocking in the RA is mostly a result of fire exclusion since approximately 1910. Arno and Gruell (1983) estimated pre-settlement fire periodicity in similar habitat types in Montana at 41 years. Most (estimated at greater than 95%) forests in the RA have not experienced the thinning and fuel-reducing benefits of non-lethal fire since settlement, and as a result, have declining vigor. Higher elevation Douglas-fir forests are regenerating to understory subalpine fir, causing an unprecedented accumulation of stems. These heavy fuel loads can act as "ladders" to initiate stand-replacing crown fires. Examples of ladder fuel accumulation can be seen in the Thompson and Squaw Creek drainages, as well as on steep north aspects at moderate elevations throughout the RA. These types of forests are probably most adversely affected by the absence of fire.

In most mid and low elevation older (average age greater than 150 years) forests where Douglas-fir is considered the seral and climax species, hazards due to stocking are generally less, since less understory occurs because of moisture limitations. However, in burn-regenerated areas less than 150 years old (as in Bruno Creek, near the confluence with Squaw Creek), the lack of fire thinning effects has created an overstocked, vigor-reducing condition that could result in catastrophic fire or insect attack.

Site Productivity

Thirteen forest land habitat types have been identified on commercial forest lands in the Challis Resource Area (see *Table 3-5*, p. 233).

A habitat type is defined as the aggregate of land area potentially capable of producing similar plant communities at climax (Steele, *et. al.* 1981). Each habitat type is named for the climax tree species and understory species that would eventually occupy a site at climax, under ideal conditions. In reality, habitat types indicate the *potential* of a site, for many factors (such as fire interval, climate, soil productivity, aspect, and percent slope) will determine the vegetation that occupies a site over time. Habitat types provide a permanent classification based on potential vegetation which can be related to site productivity. Thus, habitat types provide an ecological basis for deciding timber harvest methods and regeneration goals for desired species composition and structure. Other factors, such as fire regime, soil composition, wildlife use, and precipitation have also been shown to be very similar in areas of the same habitat type, regardless of geographic distance from one another. As a result, habitat types can also serve as common ground for discussion among managers of non-forest resources; nearly all agencies in the Intermountain area use the classification system.

The predominant habitat type in the RA is Douglas-fir/mountain snowberry (35% of the commercial forest land in the RA). Estimated yield capability for this habitat type is low - an average of 30 cubic feet/acre/year (cf/ac/yr) - and nearly equal to the average timber capability yield for the RA. Douglas-fir is usually the only tree species present, and creates an open, savannah-like appearance with an open shrub understory of snowberry. Natural regeneration is sporadic, due to the droughtiness of these sites. Artificial regeneration can be ineffective, especially where harvesting opens up the understory to uninterrupted sunlight. Great care must be taken when harvesting to leave adequate shade, while allowing enough moisture to effectively reach the understory without being intercepted by trees.

The majority of RA habitat types are low timber productivity sites (20 to 50 cf/ac/yr). Approximately 1,138 acres are moderate timber productivity sites (greater than 50 cf/ac/yr). These highest productivity sites in the RA are dominated by Douglas-fir, with occasional inclusions of overstories dominated by subalpine fir.

Low elevation, shrub/open forest communities occupy the lowest timber productivity sites in the RA (estimated yield of 20 cf/ac/yr or less). Approximately 2,502 acres of commercial forest land in the Douglas-fir/common juniper habitat type occupy these lowest productivity sites. These sites are dominated by open stands of limber pine or Douglas-fir. Understory vegetation is usually sparse and dominated by Idaho fescue and occasional shrubs, such as curl-leaf mountain mahogany or common juniper. These sites receive limited moisture and require conservative timber harvest prescriptions which retain shade. Timber harvesting should be guided by the patterns and frequency of regeneration observed in the stand (Steele, *et. al.* 1981).

Table 3-5: Commercial Forest Land Habitat Types in the Challis Resource Area

Habitat Type	**Acres**	**Percent**
ABLA/CAGE	55	0.2
ABLA/JUCO	1,564	5.0
ABLA/ARCO	1,082	3.5
ABLA/RIMO	322	1.0
PICO/FEID	268	0.9
PICO/JUCO	80	0.3
PSME/AGSP	2,194	7.1
PSME/ARCO	6,737	21.7
PSME/CARU	1,044	3.4
PSME/FEID	4,226	13.6
PSME/JUCO	2,502	8.1
PSME/PHMA	39	0.1
PSME/SYOR	10,874	35.0
Total	**30,987**	**100.0**

Climax Species
ABLA = subalpine fir (*Abies lasiocarpa*)
PICO = lodgepole pine (*Pinus contorta*)
PSME = Douglas-fir (*Pseudotsuga menziesii*)

Understory or indicator species
AGSP = bluebunch wheatgrass (*Agropyron spicatum*)
ARCO = heartleaf arnica (*Arnica cordifolia*)
CARU = pinegrass (*Calamagrostis rubescens*)
CAGE = elksedge (*Carex geyeri*)
FEID = Idaho fescue (*Festuca idahoensis*)
JUCO = common juniper (*Juniperus communis*)
PHMA = mallow ninebark (*Physocarpus malvaceus*)
RIMO = prickly currant (*Ribes montigenum*)
SYOR = mountain snowberry (*Symphoricarpos oreophilus*)

Commercial Forest Lands

Commercial forest lands are defined as lands capable of yielding at least 20 cubic feet of wood per acre per year of commercial tree species (Timber Production Capability Classification, BLM Manual Section 5251, 1990). These species are, in order of occurrence and commercial importance: Douglas-fir, lodgepole pine, Engelmann spruce, subalpine fir, and whitebark pine. Whitebark pine is considered of commercial value when it occurs in dense stands with lodgepole pine. Estimated average yield capability of commercial forest lands in the Resource Area is 29 cf/ac/yr. Actual harvestable yield capability is estimated at approximately 9 cf/ac/yr; this accounts for mortality or reduced vigor caused by agents such as competition, insects, diseases, or fire, and the loss of yield due to less than optimal growing conditions that result from shade requirements for natural regeneration. The estimate of 9 cf/ac/yr is from extensive inventory information presented in 1978, which describes the productivity of all eastern Idaho BLM forest lands. The diversity of yields averaged from all of eastern Idaho may mean that in any given area, actual harvestable yield quantities may differ significantly from those estimated.

The existing allowable level of harvest was determined by the allowable cut calculation for the Eastern Idaho Sustained Yield Unit from data collected during the 1978 extensive forest inventory. According to inventory information, the RA could provide a sustained yield cut of 9.22 million board feet (MMBF) per decade. Actual harvest quantities since 1955 (the beginning of a local timber sales program) average approximately 440 thousand board feet (MBF) per year (or 4.4 MMBF per decade). Since 1955, approximately 5,500 acres have been partially cut, and about 400 acres have been clearcut. Average assumed rotation age is 120 years.

According to the "Interim Management Policy and Guidelines for Lands Under Wilderness Review" (BLM Manual H-8550-1, 1995), timber harvesting will not be permitted in Wilderness Study Areas (WSAs) in the RA unless they are released from wilderness review. Thus, 6,209 acres of commercial forest land are currently exempt from any management or harvest. However, the allowable harvest level of 9.22 MMBF per decade has not been changed to reflect this acreage reduction. As a result, the allowable harvest level must be taken from non-WSA lands; if the entire allowable harvest level is harvested annually, those areas could be excessively logged. Necessary shade and seed sources would be removed, and in turn, cause disruption of sustainable yields.

The primary commercial tree species in the RA is Douglas-fir (*Pseudotsuga menziesii*). Until about 1985, the main objective for harvesting was volume removal. Where harvesting occurred, diameter limit cutting predominated, with nearly complete removal of all trees greater than 20 inches DBH. Little was done to promote natural regeneration of stands, although many stands did adequately regenerate, since trees marked for harvesting were well interspersed with those that remained. This left adequate shade and seed for natural regeneration in some areas. Other areas did not fare as well. Overcutting created droughty situations in some stands, while undercutting in other areas left too much overstory to allow moisture to accumulate on the forest floor. In some areas near drainage bottoms, nearly all trees were cut, since all of the trees grew large in the presence of surface or subsurface water.

Currently, the main emphasis is to provide a sustained yield of sawtimber. From 1984 to 1994, 1,306 MBF of sawtimber (approximately 98% Douglas-fir on 351 acres) has been harvested. This is significantly lower than the sustained yield average, due to the Salmon District-wide emphasis on reforestation of unregenerated, harvested lands. This emphasis was intended to ensure that previously harvested lands maintain productivity and contribute to sustained yield. Most of the reforestation efforts occurred in the Lemhi Resource Area, although 40 acres were planted in the Thompson Creek area in 1994. Several heavily-harvested areas (about 210 acres) remain inadequately stocked in the RA; planting is not planned in these areas due to anticipated problems with plantation survival (such as drought).

Timber harvesting in the RA utilizes shelterwood marking prescriptions to promote natural regeneration. Shelterwoods implemented in the RA leave approximately 40% of the overstory intact for seed, shade, and wildlife use. Areas that have not adequately regenerated to approximately 200 trees per acre within 15 years are planted to predominantly lodgepole pine stock appropriate by zone and elevation. When regeneration is established, 70 to 80% of the overstory is removed, leaving both vigorous trees that will still put on significant volume, and trees that are important for wildlife habitat. Slash is lopped and scattered concurrently with logging operations. Mistletoe-infected trees are selected for removal, unless they are required to meet shade, seed, wildlife, or watershed objectives. In areas which are heavily infected by mistletoe, clearcutting has been undertaken followed by planting to non-host species. Fewer than 100 acres have been treated this way Resource Area-wide. Special prescriptions for immediate down tree removal are enforced in areas infested or at high risk of infestation by Douglas-fir beetle.

In 1987, site preparation by dozer scarification for natural regeneration was employed on 200 acres in the Dry Canyon area on an experimental basis. Logged areas in Dry Canyon currently lack natural regeneration, and it was thought that competition from grasses, shrubs, and an overstocked overstory were the problems. Thinning removed approximately 30% of the non-merchantable overstory and dozer scarification removed about 40% of the understory competition. It remains to be seen whether regeneration will result; since that time, no other scarification has been planned or implemented in the RA.

No precommercial thinning projects (other than discussed above in Dry Canyon) have been employed in the RA, because there is currently very little stock in age classes which need thinning. Most of the established regeneration that resulted from logging is still spaced to allow maximum growth. Most stands of pole-sized Douglas-fir that regenerated following burns or insect mortality are already stagnated beyond the point where thinning would provide a cost-effective return on the investment of labor and materials to do the work.

No prescribed burning in the RA has occurred as part of site management, except some slash burning following timber harvest.

An average of 0.5 miles of road have been constructed per year in conjunction with RA timber sales. New road mileage construction has decreased in recent years because harvest levels have been reduced and timber harvests have used existing roads (much of the existing access to forested lands has been created by mining or other activities). Newly constructed logging roads are closed within two years of timber sale completion.

Woodlands

Forest lands that are not capable of producing 20 cf/ac/yr, or produce only non-commercial tree species, or are incapable of long term timber production (fragile nature or inability to adequately reforest) are classified as woodlands and are not included in the commercial forest land allowable cut base. Actual woodland productivity in the RA is unmeasured, although it is estimated at approximately 10 cf/ac/yr. Woodlands in the RA consist of forest land which is incapable of sustained long-term production due to the fragile nature of the site (*e.g.*, rocky soils, droughtiness) and/or the site's inability to produce adequate growth per acre. Locally non-commercial tree species such as aspen, cottonwood, and Rocky Mountain juniper also fall into the woodland classification. All other species occupy the low productivity woodland sites, although Douglas-fir dominates.

Local Demand for Forest Products

Historically, the majority of timber harvested from the Challis and Lemhi Resource Areas was purchased by a local sawmill in Salmon, Idaho; however, this mill closed in 1995. The Salmon Intermountain sawmill processed 20 to 22 million board feet of lumber per year. The local economy in Salmon was somewhat linked to the operation of this sawmill, and the mill was very dependent upon a supply of timber from Lemhi County and surrounding counties. However, most timber purchased by the Salmon mill was harvested from U.S. Forest Service lands; less than 5% of the mill's annual demand could be met through timber from Challis RA lands (assuming the entire average annual harvestable yield for the RA is both harvested and purchased).

Presently, timber sales offered by the Challis Resource Area are likely to be purchased by small local sawmills or by non-local mills in the Boise, Idaho area or southwestern Montana. Three small sawmills operate in the Challis, Idaho area. These mills purchase small quantities of timber from BLM lands, although the exact volume is unknown.

Currently, there is little demand for fuelwood or other woodland products (such as posts, Christmas trees, or pine cones) from Challis RA forest lands. No BLM fuelwood permits were sold in the RA during 1993 and 1994. Prior to 1993, 0 to 3 permits for two cords each were sold. The low demand for woodland products may have been because people had to drive to Salmon to acquire a permit; this is rectified now that the Challis National Forest handles RA fuelwood sales on BLM administered lands. In addition, fuelwood and other woodland products are relatively abundant and available for the same price on adjacent Salmon and Challis National Forest lands.

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Hazardous Materials Management.

Law, Regulation, and Policy

Major authorities for the Challis Resource Area's hazardous materials management program include the following:

Comprehensive Environmental Response, Compensation, and Liability Act (1980, as amended) (42 U.S.C. 9601 *et seq.*)
Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6901 *et seq.*)
Emergency Planning and Community Right-to-Know Act of 1986 (42 U.S.C. 11001)
Pollution Prevention Act of 1990 (42 U.S.C. 13101)
Toxic Substances Control Act of 1976 (15 U.S.C. 2601 *et seq.*)
Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*)
Clean Water Act of 1972, as amended (33 U.S.C. 1251 *et seq.*)
Clean Air Act of 1970, as amended (42 U.S.C. 7401 *et seq.*)
Uranium Mill Tailings Radiation Control Act of 1978, as amended (42 U.S.C. 2014 *et seq.*)
Safe Drinking Water Act of 1974, as amended (42 U.S.C. 300 *et seq.*)
Nuclear Waste Policy Act of 1982 (42 U.S.C. 10101 *et seq.*)
Transportation Safety Act of 1974; Hazardous Materials Transportation Act amendments of 1976 and 1990 (49 U.S.C. 1801 *et seq.*)
Atomic Energy Act of 1954 (42 U.S.C. 2001*f*)
Federal Insecticide, Fungicide and Rodenticide Act of 1975 (7 U.S.C. 136 *et seq.*)
Recreation and Public Purposes Act of 1926, as amended in 1988 (43 U.S.C. 869)
Occupational Safety and Health Act of 1970 (29 U.S.C. 651 *et seq.*)
National Environmental Policy Act of 1972 (42 U.S.C. 4321)
Salmon District BLM Hazardous Materials Contingency Plan (1994).

Affected Environment

The goals of the Idaho BLM hazardous materials management program are to (a) prevent the occurrence of hazardous materials/waste incidents on public lands, (b) prevent illegal dumping of hazardous wastes on public lands, (c) ensure protection of human health and the environment when dealing with hazardous materials/wastes on public lands, and (d) minimize the generation or release of hazardous wastes and pollution on BLM public lands and BLM facilities.

The Challis Resource Area's proactive efforts to prevent hazardous waste incidents include educational and enforcement programs. As required by OSHA, all Resource Area employees annually receive a minimum 8-hour hazardous material awareness training. Employees who are more "field-work" oriented receive 24 hours of training, hazardous materials coordinators receive 40 hours of training, and employees who handle pesticides must be State certified. An 8-hour refresher course is given annually to employees with 24-hour, 40-hour, and/or pesticide certification. Public education efforts include press releases explaining the high costs of illegal dump cleanup and signing of closed dump sites. Closed dump sites are patrolled regularly; violators may be issued citations.

An inventory of sites that may contain hazardous material was implemented in 1991 and is ongoing. The Challis Resource Area is inventorying abandoned mine sites, lease and permit sites, rights-of-way, and any other activities that may have produced a hazardous materials incident on public lands. To date, 130 sites have been inventoried for the presence of hazardous material. These sites include 78 lands-related activities (less than 1 to 400 acres; Desert Land Entries, rights-of-way, exchanges, sales), 28 unauthorized dumps (.1 to 3 acres), and 24 abandoned mines (less than 1 to 3 acres). No hazardous materials were found on the 78 lands activity sites. One of the 28 unauthorized dumps contained hazardous material. About 600 pounds of outdated pesticide and contaminated soil were removed from the site and incinerated at a certified facility at a cost of approximately $20,000. Old, unstable dynamite was discovered at one of the abandoned mine sites. An explosives expert was contracted to dispose of the old dynamite at a cost of approximately $5,000.

The Challis Resource Area has three mining districts which contain three active mines, many inactive mines and prospects, and 24 known abandoned mines. If any other mine sites exist, they are estimated to be very few. Abandoned mine sites have often been looted and very few items remain at these sites. If any contaminants are found, the typical products include explosives, fuels, and lubricants. Generally, these sites are not signed. There are no Superfund Sites within the Resource Area boundary.

The Resource Area has one active landfill lease (the City of Challis landfill). Since 1991 this site has only accepted construction debris; prior to 1991 the site accepted general household waste. Ground water contamination is an environmental threat at this site because this landfill is on non-suitable soil types (gravelly, with limited clay). However, the site is being monitored by the Idaho Department of Environmental Quality using monitoring wells.

Containment of hazardous materials on some private lands is a concern on some nearby Resource Area public lands. The BLM has no authority to contain or remove hazardous materials on private lands; however, it is possible that hazardous materials on private lands may affect resources on public lands (*e.g.*, soils, water quality).

Typical unauthorized dump which may contain hazardous materials. Cleaned up in 1993 at a cost of $10,950.

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Land Tenure and Access.

Law, Regulation, and Policy

Until passage of the Federal Land Policy and Management Act (FLPMA) on October 21, 1976, there was no clear mandate for the retention or management of public lands administered by the BLM. FLPMA states that public land will remain in public ownership and be managed by the BLM under the principles of multiple use. FLPMA does, however, allow for disposal of tracts that meet criteria listed in Section 203 of the Act. These tracts must be specifically identified during the land use planning process. (For a list of sale tracts identified for potential disposal, see PRMP, Land Tenure, Goal 2, #3, p. 55 and *Attachment 17: Tracts Considered for Sale*, p. 151.) BLM authority for obtaining public access is derived primarily from Sections 202 and 205 of FLPMA (43 U.S.C. 1701, 1732; and 43 CFR 2130). BLM authority for entering into land exchanges is contained in Section 206 of FLPMA.

Under the Recreation and Public Purposes Act (R&PP) (July 25, 1979), the BLM has authority to lease or patent public land to local governments or nonprofit entities for public parks and recreation sites, building sites, schools, or other public purposes. Landfill sites are not to be leased under the R&PP Act, but may be patented under the Act.

Affected Environment

Land Status: The Challis Resource Area contains 792,566.87 surface acres of public land under BLM administration. (The BLM also administers the subsurface estates for all Federal lands.) *Table 3-6* shows surface land ownership and status within the RA, by county. No tribal lands are located within the RA boundary, although Federally recognized Indian tribes (especially the Shoshone-Bannock Tribes) have tribal treaty rights on BLM public lands within the Challis RA. These rights afford tribal members the opportunity to fish, hunt, and gather natural resources on BLM lands. The majority of power site withdrawals are along the Salmon River. State of Idaho lands include 239.70 acres owned by the IDFG and 47,192.22 acres in State School Land Grants. The land ownership pattern is primarily private lands at lower elevations and along water courses, BLM lands at mid elevations, and USFS lands at higher elevations (see *Map E: Land Ownership*).

Table 3-6: Land Status in the Challis Resource Area, in Surface Acres and Percent, by County

Ownership	Custer County		Lemhi County		Total	
	acres	percent	acres	percent	acres	percent
BLM	702,073.95	71.4	77,723.64	7.9	779,797.59	79.3
USFS	136.79	0.0	0.00	0.0	136.79	0.0
Power Site withdrawals	11,815.92	1.2	1,376.57	0.1	13,192.49	1.3
State of Idaho	43,812.15	4.5	3,621.77	0.4	47,433.92	4.8
Private	119,123.95	12.1	23,116.61	2.4	142,240.56	14.5
Totals	876,962.76	89.2	105,838.59	10.8	982,801.35	99.9*

*column does not total to 100.0 because of rounding error (percents are only rounded to tenths of a percent).

Land Use Authorizations: Land use authorizations within the Challis Resource Area include rights-of-way grants for utility systems, transportation systems, irrigation systems, and communication sites; Recreation and Public Purposes leases; and public works leases. The Automated Land and Minerals Record System (ALMARS) lists 248 rights-of-way cases in the Challis RA (ALMARS July 15, 1993). No designated right-of-way corridors are located in the RA at present.

Six communication sites are authorized in the RA (see *Map 19: Communication Sites*); each site uses approximately 10 acres. These sites have from one to three users each, for either two-way radio communication, TV translators, microwave relays, or telephone microwave.

Five Recreation and Public Purposes (R&PP) leases have been issued in the RA during the past 25 years. The Recreation and Public Purposes Act of July 25, 1979, as amended, provides guidelines and procedures for transferring certain lands under the Act to states or their political subdivisions, and to non-profit corporations and associations for recreational or public purposes. The parcels are either classified suitable or nonsuitable for the action proposed. A total of approximately 250 acres have been classified as suitable lease sites. A landfill lease to the City of Challis for the Challis facility (40 acres) was issued in 1983 for a 20 year term. In 1987 Custer County was issued a 25 year R&PP lease for a 2.5 acre fire station on Barton Flat north of Mackay. In 1981 Custer County received a 25 year R&PP lease for an 80 acre rifle range north of Challis. A lease issued to Custer County for a landfill in the Mackay area was never utilized; the lease was issued for 20 years, was relinquished in 1994, and the file closed in 1995. In 1964 the Idaho Department of Fish and Game was issued a lease for a recreation site near Ellis. The lease has been renewed twice; it expired and was relinquished in 1994.

Public works leases are issued to Federal agencies for certain activities on public lands. Two airport leases have been issued in the RA for remote airstrips (one for about 125 acres in Lemhi County, near May, Idaho; the other for about 60.00 acres in Custer County, along the Trail Creek Road between Mackay and Sun Valley, Idaho). These leases may be renewed under FLPMA when they expire.

Land Disposal and Acquisition: Land tenure adjustments are the disposal of Federal lands and/or the acquisition of private lands or interests. Historically, the primary forms of land tenure adjustment in the Challis RA are sales, R&PP patents, and exchanges pursuant to FLPMA, Sections 202, 203, 206, 207, 209, 210, and 212. Some lands have also been disposed of through desert land entry patents. The Desert Land Entry Act of March 3, 1877, as amended, provides for desert land entries on BLM public lands of the thirteen western states. The purpose of the statute is to encourage reclamation (by irrigation) of arid and semi-arid lands through individual efforts and private capital. FLPMA, as amended, stresses management of public lands rather than disposal. According to existing land use plans (MFPs), very few lands in the Challis RA meet the present criteria for disposal within the authority of the Desert Land Entry Act. Over 13,000 acres have been determined nonsuitable for disposal as Desert Land Entries.

Table 3-7 lists land tenure actions completed since the Challis (1978), Mackay (1982), and Ellis-Pahsimeroi (1983) Management Framework Plans were approved:

Table 3-7: Land Tenure Actions Since 1978

# of Actions	Type of Action	Approximate Acreage
8	desert land entry patent	306
5	public sale	86
1	mineral patent	265
4	exchanges patent	192
2	acquisition	382
1	donation	20
Total Acreage (disposal and acquisition):		**1,251**

Trespass: Unauthorized use or trespass areas have been identified, and 128 suspected or verified cases have been serialized and are pending. These trespass cases include a wide variety of unauthorized uses, such as agricultural development, irrigated pasture, occupancy, fences, illegal dumps, access roads, utility lines, and water systems. Current information on trespass cases for the RA is available through the Automated Land and Minerals Record System.

Withdrawals: *Table 3-8* summarizes the acreage withdrawn by the BLM and other agencies in the Challis RA. The narratives following the table explain the types of withdrawals.

Table 3-8: Withdrawal Status of Lands in the Challis Resource Area, by Type of Withdrawal, County, and Land Ownership
(acres withdrawn)

Action	Custer County			Lemhi County		
	BLM	State	Private	BLM	State	Private
Recreation Sites	1,286.73	-	-	164.03	-	-
Public Water Reserve	1,900.39	-	-	-	-	-
USFS Administrative Site	136.79	-	-	-	-	-
Federal Energy Regulatory Commission	884.45	-	-	-	-	-
Power Site Reservation 8	327.75	-	135.27	1,376.57	47.75	607.02
Power Site Reservation 223	8,675.81	-	1,131.86	-	-	-
Power Site Classification 17	268.10	-	-	-	-	-
Power Site Classification 169	39.64	-	160.00	-	-	-
Power Site Classification 336	2,236.79	-	40.00	-	-	-
Power Site Classification 424	267.83	-	-	-	-	-

Recreation Sites: During the process of preparing prior MFPs, the Challis RA published documentation in the *Federal Register* segregating campgrounds in the RA from acquisition by the general public under the general land and mining laws and regulations. These campground and recreation site locations and acreage are listed in *Appendix D, Item 1*.

Public Water Reserve: Public water reserve sites are spring areas set aside and maintained for public use; they cannot be patented for private use.

USFS Administrative Site: The U.S. Forest Service has acquired administration sites outside Forest Service boundaries either by fee purchase, gift, or an administrative site withdrawal from the BLM. The two USFS administrative site withdrawals within the Challis RA include the Yankee Fork Ranger Station and the Challis Ranger District office in Challis, Idaho. These sites will remain as administrative sites in perpetuity, or until relinquished.

Federal Energy Regulatory Commission Withdrawal: When the Federal Energy Regulatory Commission applies for a low-head hydro-power project, the agency files a withdrawal with the appropriate BLM state office for the area affected by the project. The BLM has very little, if any, input and responds through the U.S. Forest Service or the U.S. Fish and Wildlife

Service on the environmental impacts of the project.

Power Site Reservation or Classification: Numerous withdrawals within the RA have set aside lands along the Main Salmon River and East Fork Salmon River to provide the Federal Energy Regulatory Commission with possible future sites for hydro-power projects. These power site reservations and classifications were executed by Secretarial Order in the 1920s and are in effect until each withdrawal is reviewed for validity (by order of the 1992 Federal session of Congress). Under section 204(a) of the Federal Land Policy and Management Act of 1976, the Secretary of the Interior is authorized to make, modify, extend, or revoke withdrawals. Field offices of the BLM analyze withdrawal proposals and make review recommendations to the Secretary. All power site reservation and classification withdrawals in the RA are expected to be relinquished upon review.

Access: Not all roads under BLM jurisdiction have legal access across private and State lands; however, some current land owners allow public and BLM access. *Table 3-19* in ***Chapter 3*** - Transportation, p. 274 lists the easements allowing access across private and State land to BLM public lands. These easements provide for either public use or administrative access. Approximately 99% of BLM lands in the RA are accessible by foot or vehicle across other BLM lands, U.S. Forest Service lands, or State lands. Very few tracts in the RA are isolated by private lands. The PRMP, Land Tenure, Goal 5, #1-2, p. 58, identifies the types of legal access that would be needed to ensure public access.

Additional information on transportation facilities which provide access to BLM lands is provided in ***Chapter 3*** - Transportation on pp. 272-275.

Land Use Authorization - Communication Site

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Livestock Grazing.

Law, Regulation, and Policy

The principal authorities for livestock grazing on public land are the Taylor Grazing Act of 1934, as amended (43 U.S.C. 315 (a)-(r)) and the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*) as amended by the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 *et seq.*). Grazing regulations are found in 43 CFR 4100. *State of the Public Rangelands* (BLM 1990), a national strategic planning document for BLM rangelands, identifies the following objectives: (a) Achieve late seral to potential natural community stage on 75% of BLM riparian areas by 1997; (b) increase the area in late seral to potential natural community stage to 40% (68 million acres) by 2009; and (c) reduce the area in early seral stage to 10% (17 million acres) by 2009. Livestock grazing in the Challis Resource Area was analyzed in the Final Supplemental Environmental Statement-Revised Range Management Program for the Challis Grazing Unit (1979), the Ellis-Pahsimeroi Final Grazing Environmental Impact Statement (1982), and the Big Lost-Mackay Grazing Final Environmental Impact Statement (1983).

Affected Environment

Approximately 771,224 acres (97.3%) of the 792,567 acres of BLM-administered public lands in the Challis Resource Area are currently allocated for livestock grazing. The area allocated for livestock grazing is divided into 62 grazing allotments for administrative purposes (see *Map B: Allotment Boundaries*). Currently, the following areas are closed to livestock grazing:

Cronk's Canyon Bighorn Sheep Pasture	1,496	acres
Morgan Creek Bighorn Sheep Pasture	3,642	acres
Bruno Creek Allotment (mining)	2,378	acres
Sand Hollow Area (watershed)*	3,332	acres
Malm Gulch Area (watershed)*	9,136	acres
East Fork Salmon River Bench (ACEC)	78	acres
Summit Creek exclosure (plants)	305	acres
	20,367	acres

*also closed to wild horses/burros

In addition to the above grazing closures, the following areas have restrictions on livestock water development, in order to protect wildlife habitat:

Garden Creek and Bayhorse Allotments (bighorn sheep)	1,000	acres
Eastfork Allotment (bighorn sheep)	4,493	acres
Spud Creek Allotment (bighorn sheep)	297	acres
Willow Creek Allotment (elk)	2,200	acres
	7,990	acres

Approximately 84 livestock operators have permits to graze their livestock on public lands within the Resource Area. Each allotment has a specific area and season of use, class of livestock permitted, and established grazing preference. Allotments are placed into one of three categories for priority of management and expenditure of range betterment funds, with 30 allotments in the improve (I) category, 25 in the maintain (M) category, and 7 in the custodial (C) category (see *Appendix F, Item 2*, and *Glossary* definition: allotment categorization).

The majority of livestock use within the Resource Area consists of cow/calf operations, with a few yearling operations. A few permittees graze sheep (4 permits for 3,700 sheep and 3,056 AUMs in 5 allotments), and some graze horses, primarily as a part of their livestock operations. The season of use varies by area. Much of the Resource Area consists of BLM land situated on foothills above privately owned valley bottoms, adjacent to National Forest lands which are mostly forested high country. Most of the allotments in the Pahsimeroi Valley and the Mackay area fall into this category. These allotments are primarily used for spring and fall use before and after summer grazing on the adjacent National Forests. Several allotments in the middle of the Pahsimeroi Valley and the areas around Challis are used for season-long grazing, beginning around May 15 and running as late as November 15. Winter use is rare, with only 3 allotments permitted for winter use. Due to the land ownership pattern within Lemhi and Custer counties, livestock permittees are very dependent on public range for summer grazing. A very limited amount of private land is available for hay production, and livestock are typically off hay croplands during the summer months (when hay is being produced).

Allotment Management Plans

Livestock grazing in 40 of the 62 allotments is managed under the terms and conditions of an Allotment Management Plan (AMP). Each AMP contains management objectives for the allotment, prescribes the manner and extent of grazing allowed, describes range improvements necessary to implement grazing practices, and details a monitoring system to determine whether the objectives are being met. Grazing systems vary from a simple seasonal system to complex multi-pasture systems involving rest, deferment, and rotation among many pastures. *Table 3-9: Grazing Systems on AMP Allotments* describes the category, grazing system, and season of use for each allotment with an AMP.

The resource objectives detailed in the 40 AMPs follow goals and objectives stated in the Challis, Ellis-Pahsimeroi, and Mackay grazing Final Environmental Impact Statements (EISs). Normally, AMPs are evaluated periodically and revised as necessary, to ensure they continue to meet land use plan goals and objectives. In the Challis Resource Area AMPs have been revised at the rate of about 1 to 2 per year. Many AMPs were completed in the early 1980s, before amendments to the Clean Water Act, listing of the sockeye salmon as endangered and the chinook salmon and steelhead trout as threatened, and the current emphasis on riparian improvement. In order to address these concerns, most of the existing AMPs guiding livestock management on 40 allotments within the Challis Resource Area would be revised (see PRMP, Livestock Grazing, Goal 1, #4, p. 60).

Table 3-9: Grazing Systems on AMP Allotments

Allotment Number/Name	Category[1]	Grazing System[2,3]	Season of Use[3]
4409 Allison Creek	M	1S; 2DR; 3RR; 2DR	5/1-10/31
4410 Hat Creek	I	4 Area DR	5/10-6/25;10/11-10/28
4411 Morgan Creek	I	3 Pasture RR	5/1-5/30; 11/1-12/30
4412 Lawson Creek	M	Seasonal	5/1-6/15; 10/7-10/16
4502 Spud Creek	I	3 Pasture DR w/USFS	5/8-7/15
4504 Hamilton	I	2 Pasture DR	5/11-7/10
4505 Mahogany Creek	M	3 Pasture DR	5/10-9/30
4506 Patterson Creek	I	1 Pasture Seasonal	5/1-6/6
4508 Meadow Creek	M	4 Pasture DR w/USFS	5/6-6/5
4509 Countyline	I	3 Pasture DR	5/5-6/15
4513 Bear Creek	M	5 Pasture DR	5/16-9/30;11/1-11/30
4518 Rock Creek	M	4 Pasture DR w/USFS	6/1-10/15
5601 Round Valley	M	2 Pasture DR	5/15-9/14
5602 Garden Creek	M	3 Pasture RR	5/15-6/22
5603 Warm Springs	I	3 DR; 2-2 DR; 1Trail	5/15-10/31;12/16-1/15
5604 Squaw Creek	M	3 Pasture DR	5/21-6/15;10/1-10/15
5605 Eastfork	I	3 Pasture RR	5/21-6/10
5606 Bayhorse	I	2 Pasture RR	5/15-7/15
5607 Bald Mountain	M	1 Fall; 2 Past RR	5/15-7/15;10/1-10/15
5608 Bradshaw Basin	M	4 Pasture DRR	5/15-7/15
5609 Bradbury Flat	I	2 Pasture RR	5/16-9/27
5610 Mtn Spgs. (San Felipe)	I	5DR;7RR	5/21-11/15
5611 Road Creek	M	2 Pasture RDR	5/16-10/8
5612 Herd Creek	I	3 Pasture RR w/ USFS	6/15-10/31
5613 Stanley Basin Trail	C	Trailing Use Only	Trailing Use Only
5615 Challis Creek	M	4 Pasture RR w/USFS	5/15-9/15
5616 Lime Creek	C	5 Pasture RR w/USFS	5/15-10/15
5617 Pennal Gulch	I	2 Pasture DR	5/15-9/12
5618 Spud Creek	M	2 Pasture DR; 1S	5/10-7/12
5609 Thompson Creek	I	4 Pasture RR w/USFS	5/25-10/15
5621 Pine Creek	M	2 Pasture DR	6/5-7/18
5622 Sullivan Creek	C	2 Area DR w/ USFS	5/11-8/30; 10/1-10/15
5623 French Creek	C	Seasonal w/ rotation	unallotted
5624 Split Hoof	M	2 Pasture DR	5/15-6/15
5701 Arentson Gulch	M	6 Pasture DR w/USFS	5/20-9/25
5702 Dickey	M	5 Pasture DR w/USFS	5/18-9/30
5703 Whiskey Springs	I	3 Pasture RR	5/10-7/8; 10/1-10/10
5704 Mackay	I	Seasonal	5/1-12/15
5709 Wildhorse	I	2 Pasture DR	5/7-7/8
5712 Thousand Springs	I	1S; 2RR; 1DR	5/1-7/9; 11/11-12/25

[1] Categories: M = maintain, I = improve, C = custodial (see *Glossary*: allotment categorization, p. 166).

[2] S = seasonal, RDR = rest-deferred rotation, DR = deferred rotation, RR = rest rotation (see *Glossary*: grazing system, p. 173), w/ USFS = AMP is jointly managed with the Forest Service, and the number of pastures includes USFS pastures, trail = trailing use pasture

[3] Grazing System and Season of Use were taken directly from AMPs and may not exactly match grazing permit dates.

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Forage Allocation

The current active preference within the Challis Resource Area is 51,069 AUMs, with an additional 3,872 AUMs of suspended preference (see *Glossary* definition: grazing preference). *Appendix F, Item 1: Allotment Summary*, pp. 644-645, shows the current preference for each allotment, in addition to other allotment information (permit class (cattle, horse, or sheep), acres, category, season of use, date AMP was approved (if an AMP exists), and number of permittees). When the Ellis-Pahsimeroi, Challis, and Mackay grazing EISs were prepared, they were preceded by a vegetative inventory to allocate forage among users. The inventory determined the average total annual production of vegetation. A factor was used to provide for plant maintenance and watershed protection, and the remaining vegetation was considered forage available for allocation to consumptive users, including livestock, wild horses, and wildlife. The inventory for all EIS areas showed a total livestock grazing capacity of 42,734 AUMs. After balancing the needs of all users, BLM planning established an initial livestock carrying capacity of 44,825 AUMs. Due to installation of range improvements and a number of other factors, the current grazing preference is 51,069 AUMs. For further information on livestock grazing allocations, see the Challis Rangeland Program Summary (RPS) update (1985), the Ellis-Pahsimeroi RPS update (1987), and the Mackay RPS update (1988).

From 1979 to 1990, an average of 43,769 livestock AUMs have been used annually. The amount of livestock preference that is actually used each year varies, based on climatic conditions, livestock markets, individual ranch considerations, and so forth. In some years, good growing conditions provide extra forage production. Livestock permittees can apply for extra use above their recognized grazing preference under provisions of the Federal grazing regulations. Permittees can also apply for additional use above their preference if other permittees cannot use their full preference. In other years drought conditions, fire, insects, or other causes provide less forage production than normal years. Under these conditions permittees sometimes use less forage than their preference by reducing the number of livestock they turn out onto public range, shortening the grazing season, or both.

The condition and trend of rangeland vegetation are directly related to management of the livestock, wild horses, and wildlife that utilize forage. Livestock management especially affects rangeland condition and trend, since the majority of allocated forage (51,069 AUMs) is allocated to livestock grazing, compared to only 3,795 AUMs allocated to wild horses and 10,425 AUMs allocated to big game. The remainder of vegetative biomass (approximately one-half) is left for watershed protection, plant maintenance, and other non-consumptive uses.

Rangeland Inventory

Rangeland vegetation in the Challis Resource Area is primarily shrub-grassland, with bluebunch wheatgrass and Idaho fescue as the primary forage species. A complete description of upland vegetation is provided in ***Chapter 3*** - Vegetation, pp. 278-296.

The ecological status of public rangelands in the Challis Planning Unit was inventoried in 1977 using the Ecological Site Inventory (ESI) methodology. The Ellis-Pahsimeroi Planning Unit was

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inventoried in 1979 using the Soil-Vegetative Inventory Method (SVIM), and the Mackay Planning Unit was inventoried in 1981 using the SVIM. The findings of those inventory methods are summarized by allotment category in *Table 3-10* below, and by allotment in *Appendix F, Item 2: Range Condition Summary by Allotment*, pp. 646-647. Range condition for the Resource Area is also shown on *Map F*. The figures in *Table 3-10* below include only BLM public lands and have been adjusted from the original inventories to account for the Donkey Hills State land exchange (8,480 acres of BLM land exchanged for 8,716.12 acres of State land) and other allotment boundary changes that have taken place since the original inventories.

These vegetative inventories vary from 15 to 19 years old, and many changes have occurred in livestock management and resource conditions since the inventories were completed. Livestock grazing management has been much more intensive on most grazing allotments in the years since the inventories were done. Many range improvement projects have been constructed to improve livestock distribution and improve riparian and upland conditions. The positive impacts of these actions may have been offset by several years of back-to-back drought in the late 1980s. Vegetative inventories such as these are extremely expensive and take several years to complete, analyze, and interpret. Therefore, it was determined that these inventories are sufficient for the purposes they will be used for in the Challis RMP, and it was not necessary to update them for the RMP. An inventory for the Mountain Springs (San Felipe) allotment was redone during the course of RMP preparation to address specific management concerns within that allotment; results of this updated inventory are reflected in *Table 3-10* and *Appendix F, Item 2*.

Table 3-10: Ecological Status[1] of the Challis Resource Area by Management Category

Mgmt. Category[2]	# Allotments	PNC[3] (acres)	Late Seral (acres)	Mid Seral (acres)	Early Seral (acres)	Unclassified (acres)	TOTAL (acres)
M	25	2,126	72,006	75,245	37,099	27,548	214,024
I	30	25,539	184,400	192,259	87,700	37,618	527,516
C	7	0	2,088	3,503	696	2,505	8,792
None	n/a	550	7,367	6,271	3,138	24,909	42,235
TOTALS	62	28,215	265,861	277,278	128,633	92,580	792,567
% totals		3.6	33.5	35.0	16.2	11.7	
Totals from prior inventories (1979-1981))	62	5,971	220,198	304,598	169,102	92,693	792,567
% totals		0.8	27.8	38.4	21.3	11.7	

[1] See *Glossary*: ecological status, p. 170.
[2] Management categories: M = maintain, I = improve, C = custodial (see *Glossary*: allotment categorization, p. 166).
[3] PNC = potential natural community (see *Glossary*, p. 179).

These vegetative inventories were designed to determine the ecological status of upland vegetation and were not of sufficient detail to map or inventory the status of riparian zones. However, inventories conducted from 1994 through 1995, and observations made since 1995 indicate riparian zones throughout the Resource Area are in the following functional condition (also see PRMP, *Attachment 1: Riparian-Wetland Area Function Classification*, pp. 101-102):

Functional	487.0	acres
Functional-at-risk	757.7	acres
Non-functional	115.7	acres
Total Riparian Habitat:	1,360.4	acres

Rangeland Monitoring and Evaluation

The BLM conducts rangeland monitoring to determine whether land use plan objectives (such as those in the Challis, Ellis-Pahsimeroi, and Mackay MFPs) are being met. Some of the monitoring methods used by the BLM include trend, utilization, cover, climate, actual use, and photographs. These monitoring studies are read on a periodic basis, with the frequency of re-reading depending on such things as the land use plan objectives being monitored and how rapidly a change in conditions can be expected to occur.

In March, 1992, BLM staff evaluated monitoring data from 59 allotments in the Resource Area in order to determine current rangeland trend. Data evaluated included close-up and general aspect photographs of 3' x 3' photoplots, and nested frequency data when available. Seventy-six (76) studies were inconclusive due to insufficient data, 3 studies showed downward trend, 35 showed static trend, and 6 showed an upward trend. Five of the upward trend allotments were attributed to reduced wild horse numbers and one was attributed to livestock non-use. These data seemed to indicate that management applied up to 1992 did not meet existing land use plan objectives to *improve* range condition in the Resource Area. Four reasons may have accounted for this lack of improvement: (a) grazing systems may not have been fully implemented as planned, (b) overstocking, (c) seasons of use that are incompatible with improving the vigor of desired species and (d) insufficient grazing management changes in response to drought conditions.

a) Allotments with an AMP are to be managed under the grazing system described in the AMP. However, permittee compliance with grazing systems varies by allotment. On some AMP allotments the range improvements needed to fully implement grazing systems were not constructed due to insufficient funding or because of Wilderness Study Area constraints. Grazing systems on other AMP allotments have proven to be more difficult to implement than planned when the AMP was written.

b) Under existing management, stocking levels on several allotments are above the capacity defined in the latest range survey. Fourteen allotments (Allison Creek, Mahogany Creek, Burnt Creek, Garden Creek, Bayhorse, Challis Creek, Warm Springs, Squaw Creek, Eastfork, Bald Mountain, Bradshaw Basin, Bradbury Flat, Mountain Springs (San Felipe), and Split Hoof) currently have grazing preference more than 30% over the inventoried grazing capacity. Utilization levels on many allotments within the Resource Area have been periodically measured above the 50% limit prescribed by the land use plans. Even the livestock grazing capacity defined in the Challis Planning Unit EIS (based on the 1977 inventory) may be above the true capacity of the range; suitability criteria were essentially eliminated from the draft proposed action because the recommended stocking level decreases were considered too great a financial hardship for the permittees.

c) Season-of-use in the Resource Area is generally May through October (see *Appendix F, Item 1: Allotment Summary*, pp. 644-645). Nearly all allotments are used during the most critical growing season of May through June. Research has shown that continued heavy use of the key grass species bluebunch wheatgrass will result in declined vigor and eventual mortality of this species. Furthermore, rest from use for one or two years has not been shown to be effective in countering the negative effects of heavy grazing during the used year (Anderson 1991).

d) Drought and other climate-related impacts hindered perennial plant production, vigor, and seedling development on upland range sites. Appropriate responses to drought (such as lower stocking rates, shorter seasons of use, more frequent rest of pastures, and adjusting herd sizes for the lesser amounts of surface water available due to low stream flows and dry springs and seeps) were not always implemented in a timely manner, or in a fashion commensurate with the severity of the drought.

Big game populations have increased during the past 15 years, and some persons attribute poor range condition to increased use by wildlife. Although big game use may have an impact in localized areas, far fewer wildlife utilize the range than do livestock (10,425 AUMs for wildlife, versus 51,079 AUMs for livestock). Big game also use areas that are not considered suitable for livestock (*e.g.*, steep slopes).

Starting in about 1993, livestock grazing management on 14 allotments was modified due to the ESA listing of chinook and sockeye salmon. The improved grazing management resulted in observable improvement in resource conditions. During the past three years (1995-1997) the BLM has performed monitoring and data analysis on an average of 25 allotments each year. Many of the same allotments are evaluated from year to year. The magnitude and extent of data collected varies from one key area or photo point, usually located in smaller allotments, to ten or more key areas and/or studies locations within several pastures of larger allotments.

The type of data collected (besides climate and actual use) includes upland utilization and use pattern mapping, riparian vegetation stubble heights, photo points, riparian greenline trend, nested frequency (upland) trend, woody age structure, woody use, bank stability, and various other aquatic habitat parameters.

Of thirty-eight (38) studies re-read since 1992, 32% of the studies revealed an upward trend, 37% were static, and 26% showed a downward trend. The remainder (5%) were initial readings or relocated studies from which trend could not be determined.

Rangeland Improvements

To facilitate the management of livestock and allow for protection of public rangelands, a number of rangeland improvements have been installed. These include nonstructural range improvements such as seedings, prescribed burns, herbicide spraying to reduce shrubs, and chaining, as well as structural range improvements such as fences, reservoirs, spring developments, pipelines, and cattleguards. The following priority has generally been followed for construction of range improvements: (1) maintain or reconstruct existing projects, (2) complete projects needed to fully implement existing AMPs, and (3) initiate projects and treatments needed to implement new AMPs. The priority for funding new range improvements has been based on the allotment categorization process explained in the *Glossary* definition: allotment categorization, p. 166. Existing range improvements within the Resource Area are shown in *Table 3-11* (source: Rangeland Improvement Projects System, Challis RA, January 1992).

Table 3-11: Summary of Existing Range Improvements

Type of Range Improvement	Number of Improvements	Total Size of Improvements
Seeding	27	20,470 acres
Spraying	6	9,166.2 acres
Prescribed burns	14	3,384 acres
Chaining	2	520 acres
Fences	222	514.1 miles
Spring developments	190	--
Pipelines	132	190.5 miles
Reservoirs/waterholes	162	--
Detention dams	6	99,748 cu. yd.
Dikes/diversions	3	17,200 linear ft.
Earthen check dams	5	1,807 cu. yd.
Wells	2	--
Cattleguards	105	--
Exclosures	25	--
Wildlife guzzlers	13	--
Other (bridges, trails)	13	--

The current condition of these range improvements varies greatly. Generally, structural range improvements are maintained by grazing permittees or others under cooperative agreement with the BLM. Nonstructural improvements and wildlife projects (such as guzzlers and some exclosures) are maintained by the BLM. Although permittees are required to maintain range improvements under the terms and conditions of their grazing permits and the cooperative agreements authorizing the range improvements, the range improvements are often not maintained to BLM standards. Because of personnel limitations, the BLM cannot adequately assess the maintenance status of all improvements.

Vegetation manipulations such as seeding, burning, and chaining (for shrub control) have been implemented primarily to increase forage for livestock. Chaining has not been used for over 10 years, has been demonstrated to be of limited effectiveness, and will probably not be used in the future. Although prescribed burns, seeding, and spraying projects can temporarily increase forage for livestock by releasing grasses from competition with shrubs, BLM monitoring data suggest that re-establishment of target shrub species can take place within 10 to 12 years under existing levels of use, depending on climate and management. Generally, the treated area requires 2 to 3 growing seasons of rest after treatment. Thus, the net benefit of these more expensive treatments is variable.

Factors Affecting Livestock Management

The following four factors currently affect, and may constrain, livestock management in the Challis Resource Area.

Ecological Status Goals: The goals stated in the Ellis-Pahsimeroi, Mackay, and Challis grazing EISs to improve ecological status have not been met to date. Riparian condition and function assessments made by Challis Resource Area staff indicate some riparian zones throughout the Resource Area are below functioning condition. Due to the topography of the Resource Area, with perennial or intermittent streams adjacent to steep, often deeply dissected canyons and valleys, livestock use tends to congregate in riparian zones unless intensively managed. Development and revision of AMPs to correct intensive livestock use of riparian areas is ongoing. However, due to very limited budgets, progress is very slow, and the riparian resource continues to function below its potential. In many parts of the Resource Area, the riparian resource has sustained damage that may take years of intensive management to rectify.

Range Suitability Criteria: As the draft Challis, Ellis-Pahsimeroi, and Mackay grazing EISs were prepared, they all contained criteria for range suitability. (Suitability for grazing takes into account such things as slope and distance from water and/or site productivity. See Glossary: suitable ranges, p. 183.) For a variety of reasons, the suitability criteria were not used in the final Ellis-Pahsimeroi and Mackay grazing EISs. Suitability is still a valid range concept and maps are available for each planning unit in the Resource Area. Since the current grazing preferences will be used for the RMP without adjustment for factors such as suitability, suitability criteria will probably be most useful in targeting areas where review of the stocking rate may be appropriate and/or to identify physical barriers to livestock movement.

Noxious Weeds: As noxious weeds spread, they displace forage suitable for livestock. Current inventories show that noxious weeds continue to spread within the Resource Area, especially adjacent to major and secondary roadways and along the Salmon River (infestations are generally associated with vehicle traffic and/or ground disturbing practices). Custer County and the BLM currently provide educational information to the public concerning the spread of exotic species within the Resource Area. Of particular concern are spotted knapweed (*Centauria maculosa*) and leafy spurge (*Euphorbia esula*). For a further description of noxious weeds in the Resource Area, see related sections of ***Chapter 3*** - Vegetation, pp. 278-296.

Allotment Size and Shape: Due to their topography, shape, and/or small size, some grazing allotments are difficult to manage to meet land use plan goals and objectives. For example, some allotments are too small to divide into pastures to manage riparian areas or other special management areas. In order to meet RMP objectives, livestock may need to be removed from the allotment for a period of time, because there is no alternative pasture to place them in temporarily.

Minerals - Locatable, Saleable, and Leasable.

Law, Regulation, and Policy

Locatable Minerals: Locatable mineral development on BLM-managed public lands is subject to 43 CFR 3809 regulations authorized by FLPMA (43 USC 1731) and the General Mining Law of 1872 (17 Stat. 91). Three types of development are recognized: casual use, notice level, and plan of operations level. Casual use level operations are those activities which cause no or minimal surface disturbance (such as staking and work with hand tools). Operations in excess of casual use are required to file a "Notice" to the BLM at least 15 days prior to the start of operations. The BLM does not approve or disapprove a properly submitted Notice, but merely reviews the Notice and informs the miner how to avoid "unnecessary or undue degradation" of the public lands and resources. Mining operations which require plans of operations are: surface disturbance in excess of five acres, non-casual use operations on special category lands (see PRMP, *Attachment 5: Standard Operating Procedures* - Minerals, #6, p. 110), and non-complying miners operating under a Notice. The filing of a plan of operations requires that the BLM prepare an environmental assessment prior to the start of mining. Mitigation measures and reclamation bonding are often required as part of plan approval. All operations are required to prevent unnecessary and undue degradation of the public lands and resources and to abide by all applicable Federal, State, and local laws and regulations.

Saleable Minerals: The Materials Act of 1947 (61 Stat. 681), further defined by 43 CFR 3600, authorizes discretionary disposal by sale of certain common variety minerals such as sand and gravel, stone, clay, pumice, and volcanic cinders from BLM public lands and the Federal mineral estate. The designation of a community pit site constitutes a superior right to remove the material against any subsequent claim or entry of the lands (43 CFR 3604.1b). These mineral materials are sold at fair market value. Free use of these minerals can be permitted for noncommercial use by government and nonprofit agencies.

Leasable Minerals: The Mineral Leasing Act of 1920 (41 Stat. 437) makes deposits of coal, oil and gas, sodium, phosphate, and oil shale subject to a leasing system. The Mineral Leasing Act specifies rental and royalty rates, lease size, and terms for each leasable mineral, and requires prospecting permits and competitive bidding for certain deposits. Leasing of minerals under this act is discretionary, and the Secretary of Interior is given broad discretion in granting leases and permits. Federal regulations 43 CFR 3100 regulate oil and gas leasing, the type of mineral leasing most likely to be permitted in the Challis Resource Area.

Affected Environment

Locatable Minerals

Under current management, the Federal mineral estate within the Challis Resource Area is open to mineral entry, except for recreation sites (1,450.76 acres) withdrawn or otherwise segregated from mineral entry (see *Appendix D, Item 1*, pp. 636-637). Implementation of the Clean Water Act and legislation protecting cultural resources or threatened or endangered species may impose additional restrictions on surface disturbing activities on a case-by-case basis, including exploration for and mining of locatable minerals. Locatable mineral resource occurrence is summarized below, shown on *Map 30: Locatable Mineral Land Classification*, and described in detail in *Appendix G, Item 1*, pp. 648-651. Minerals extracted or identified in the past include tungsten, molybdenum, silver, copper, lead, barite, opaline material, and uranium. Current locatable mineral production in the RA is limited to the Thompson Creek molybdenum mine in the extreme western part of the Bayhorse Mining District, and a very small decorative stone operation (uncommon variety of stone) near the mouth of the East Fork Salmon River. Employment at the Thompson Creek mine has been variable; approximately 180 people are currently employed. The mine's facilities are designed to process up to 25,000 tons of ore daily. Approximately 1,000 active mining claims are located in the RA; these claims generate a variable amount of exploration and development activity.

Pahsimeroi Valley and the Ellis Area: Geologically, the area is underlain by a faulted and fractured sequence of sedimentary and metamorphic rocks of Precambrian and Paleozoic age. The Precambrian rocks are made up of the Belt Series quartzites, which were all formed by metamorphism of sandstones and shales. Bedded marine sedimentary rocks of Paleozoic age (limestones, sandstones, and argillites) overlay the Precambrian Belt Series formation. Felsic tuffs, lavas, and ash of the Challis volcanics overlay the older rock sequences.

Challis Area: Geologically, this area is underlain by a faulted and folded sequence of sedimentary and metamorphic rocks of Paleozoic age intruded by granitic outlines of the Idaho Batholith of late Mesozoic age. Felsic tuff, lava, and ash of the Challis volcanics cover older rocks in the area. Most of the ore deposits discovered since the 1870s consist of vein or replacement type deposits in the bedded Paleozoic rocks, with the exception of molybdenum, which is most abundant in a granitic stock.

The Bayhorse and Boulder Creek Mining Districts cover much of the area west of the Salmon River between Challis and Clayton, Idaho. However, no production from the Boulder Creek Mining District occurred on BLM lands. The Bayhorse Mining District has realized $5,587.3 million in gold, silver, copper, lead, zinc, molybdenum, and tungsten production since inception of mining in the 1800s (USDI Bureau of Mines 1988).

Locatable mineral resources are known to occur in nine areas around Challis, Idaho. Locatable minerals produced or identified in the Challis area include tungsten, molybdenum, lead, silver, zinc, copper, cadmium, fluorite, and gold.

Mackay Area: Geologically, the area is underlain by a faulted and fractured sequence of sedimentary and metamorphic rocks of Precambrian and Paleozoic age. The Precambrian rocks are made up of the Belt Series quartzites, which were all formed by metamorphism of sandstones and shales. Bedded marine sedimentary rocks (limestones, sandstones, and argillites) of Paleozoic age overlay the Precambrian Belt Series formations. Felsic tuffs, lavas, and ash of the Challis volcanics overlay the older rock sequences.

Locatable mineral resources are known to occur in two areas, both within the Alder Creek Mining District which lies west of the town of Mackay, Idaho. Over $16,286.8 million in gold, silver, copper, lead, zinc, iron, and tungsten has been produced from this area (USDI Bureau of Mines 1988). Two additional areas have received active exploration and are located northwest of Mackay. Delineated areas are considered potentially valuable for locatable mineral resources.

Saleable Minerals:

Stream sands and gravels, alluvial fan material, and talus material make up the saleable material resources in the Challis Resource Area. State and county road departments and independent contractors depend in part on saleable materials supplied from community pits located on BLM public lands. However, the annual quantities of the material sold are relatively small (approximately 50,000 cubic yards annually). Thirteen materials sites are located in the Challis Resource Area. The location of these sites, along with the general distribution of mineral material resources, is shown on *Map 37: Saleable Minerals Land Classification*. The sites are further described in *Appendix G, Item 1*, pp. 648-651.

Leasable Minerals:

This discussion of the affected environment for oil, gas, and geothermal minerals is based upon reports submitted in March 1992 for the Challis RMP by Steve Moore and Robert Mallis of the BLM - Idaho State Office (see Planning Record). Fluid energy leasable mineral resources in the RA include oil, natural gas, and geothermal resources. There are no known deposits of non-energy (solid) leasable minerals (coal, oil shale, phosphate, sodium, potassium, sulphur, or gilsonite). Some minor economic benefits are derived from exploration for leasable mineral resources in the RA.

Oil and Natural Gas: Most lands within the Challis Resource Area are underlain by a thick sequence of bedded marine sedimentary rocks of Paleozoic age, overlain in part by felsic tuffs, lavas, and ash of the Challis volcanics of Tertiary age. Paleozoic sediments of similar lithology have produced petroleum and natural gas in other areas of the country. Paleozoic rocks located west of the Salmon River and East Fork Salmon River have been altered, deformed, and intruded by igneous rocks, which could have destroyed any hydrocarbon reservoirs which may have existed.

Most of the Challis Resource Area and adjacent region have low potential for the discovery of petroleum resources (see *Map 34: Oil and Gas Potential*). While thrust-faulted, thick sequences of Paleozoic marine strata exist, source rocks are thermally overmature. In the 1970s and 1980s the east-central Idaho region (as well as much of Idaho) experienced a relatively high number of non-competitive oil and gas lease applications. The motivation for this surge of speculation is varied, but is usually associated with the fervor of oil and gas exploration during the late 1970s to early 1980s in the Overthrust Belt in Wyoming. Since the early 1980s oil and gas leasing activity has declined to virtually zero in the area as well as the remainder of Idaho. A high level of oil and gas leasing activity is not expected in the Challis Resource Area in the near future.

The drilling operation closest to the Challis Resource Area includes a well with a total depth of 6,700 feet in the Lemhi Valley to the east. A stratigraphic test well with a total depth of 3,600 feet, located over 20 miles south of the RA, did not reveal any evidence that would suggest a significant potential for oil and gas deposits.

Geothermal Resources: The geothermal potential of the Challis Resource Area is rated as low, except for the immediate areas surrounding known hot springs and wells (see *Map 26: Geothermal Potential*). Six thermal springs and one thermal well are located in the Challis Resource Area. The surface temperatures of these springs and the well range from 28° C to 46° C. Available geothermometry of thermal springs in the area indicate that subsurface temperatures are less than 100° C. Thermal springs in the area generally are low in dissolved solids and have high pH. Geothermal resources having temperatures 100° C or less are suitable for limited direct use applications such as spaceheating, greenhouse operation, and aquaculture. The only known uses of geothermal resources in the Challis Resource Area at present are for recreation and fish-farming. No geothermal lease applications have ever been received and no geothermal leases have ever been authorized on lands within the Challis Resource Area.

Paleontological Resources.

Law, Regulation, and Policy

Legislative, regulatory, and policy direction for the management of paleontological resources is not extensive, but general direction is provided by NEPA and FLPMA. Regulations for paleontology are being restructured to bring them together in a single section that covers the rules for collecting plant, invertebrate, and vertebrate fossils. Bureau policy on issuing Paleontological Resource Use permits was issued in late 1994 (WO IM-95-51); policy on mitigation and planning standards was issued in 1996 (WO IM-96-67). NEPA and FLPMA require that paleontological resources be given full consideration in the environmental assessment and planning process, and allow for the issuance of permits to manage the collection of scientifically significant resources such as vertebrate fossils.

Affected Environment

The Challis Resource Area demonstrates a wide variety of geological formations which are of fossil-bearing nature, although only a limited number of localities have been identified. Paleontology areas of special note are further described in *Appendix H, Item 1*, p. 642. A formal inventory of paleontological resources has not been conducted in the RA, and the supply of fossil remains is therefore unknown. The potential for discovery of additional paleontological resources is moderate, given the geologic nature of the RA.

Erosional processes, fossil collecting, and off-highway vehicle activity are detrimental to known paleontological resources, resulting in a degraded condition and downward trend. Significant removal of material by collectors is documented at one well-known site. The Challis Resource Area attempts to protect or mitigate impacts on known or discovered values.

Collecting, research and scientific studies, educational use, and visitation/viewing of paleontological resources are the major demands on these values. However, demand for these resources in the Challis RA appears to be low, based on issued permits and tourist requests. There are no data to determine the amount of unauthorized collecting and subsequent sale of material from the RA.

Fossilized tree stump in the Challis Resource Area

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Recreation Opportunities, Visitor Use, and Off-highway Vehicle Use.

Law, Regulation, and Policy

The more significant authorities for management of the BLM's outdoor recreation program include the following:

Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701-1782)
Land and Water Conservation Fund Act, as amended (16 U.S.C. 4601-4604)
National Trails System Act (16 U.S.C. 1241-1249)
National Wild and Scenic Rivers Act (16 U.S.C. 1278-1287)
National Parks and Recreation Act of 1978 (16 U.S.C. 1242-1243)
Federal Cave Resource Protection Act of 1988 (P.L. 100-691)
Wilderness Act of 1964 (16 U.S.C. 1131)
Recreation and Public Purposes Act of 1926 (43 U.S.C. 869 *et seq.*)
Federal Water Projects Recreation Act (16 U.S.C. 4601 *et seq.*)
Clear Water Act of 1977.
Executive Order 11644, Use of Off-Road Vehicles on Public Lands (37 FR 2877; Feb. 9, 1977)
Executive Order 11989, Off-Road Vehicles on Public Lands (42 FR 26959; May 25, 1977)
Upper Salmon River Recreation Area Management Plan (1986)
Mackay Reservoir Recreation Area Management Plan (1984)
Salmon District Recreation Marketing Plan (1993).

Major authorities pertaining to off-highway vehicle (OHV) use on public lands consist of these acts and executive orders:

National Trails System Act (16 U.S.C. 1241-1249)
Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*)
Taylor Grazing Act (43 U.S.C. 315a)
Endangered Species Act (16 U.S.C. 1531 *et seq.*)
Wild and Scenic Rivers Act (16 U.S.C. 1281c)
Act of September 15, 1960 as amended (16 U.S.C. 670 *et seq.*)
Land and Water Conservation Act (16 U.S.C. 1241 *et seq.*)
Executive Order 11644, Use of Off-Road Vehicles on Public Lands (37 FR 2877; Feb. 9, 1977),
Executive Order 11989, Off-Road Vehicles on Public Lands (42 FR 26959h; May 25, 1977).

Three OHV plans designate use throughout the Challis RA:

The Interim Management Plan for Off-Road Vehicle Use in the Challis Planning Unit (1982)
The Interim Management Plan for Off-Road Vehicle Use in the Pahsimeroi Planning Unit (1983)
The Management Plan for Off-Road Vehicle Use in the Mackay Planning Unit (1984).

Affected Environment

The major recreation uses of BLM public lands in the Challis Resource Area are floating, boating, fishing, hunting, camping, hiking, nature study, photography, picnicking, wildlife viewing, backpacking, rockhounding, mountain biking, cross country skiing, and OHV use. Challis RA public lands support these recreation resources: 16 BLM developed, undeveloped and managed recreation sites, 3 miles of developed hiking/horseback riding trail, 64 miles of National Scenic Byway, 141,260 acres of Wilderness Study Areas (38,930 acres recommended as suitable for wilderness designation), almost 100 miles of floatable rivers, and approximately 50 miles of wildlife viewing routes. Almost 790,000 acres are legally accessible to the public for various recreational pursuits. High quality natural and aesthetic values dominate the RA viewsheds.

Most recreation activity is concentrated in developed recreation sites within the Resource Area's two Special Recreation Management Areas (SRMAs), but some recreation use is dispersed within the Challis Extensive Recreation Management Area (ERMA) (see *Map 3-2: Existing Special Recreation Management Areas*). The SRMAs tend to provide developed recreation opportunities, while the ERMA provides the majority of more primitive recreation opportunities.

Currently, OHV use in the RA is primarily for multiple use management activities and hunting. Although 71% of the RA is open to OHV use (see *Glossary*: off-highway vehicle use categories), the RA is "naturally" restricted due to rugged topography. Existing OHV designations for the RA are summarized in *Table 3-12* and shown on *Map 3-3: Existing OHV Use Designations*.

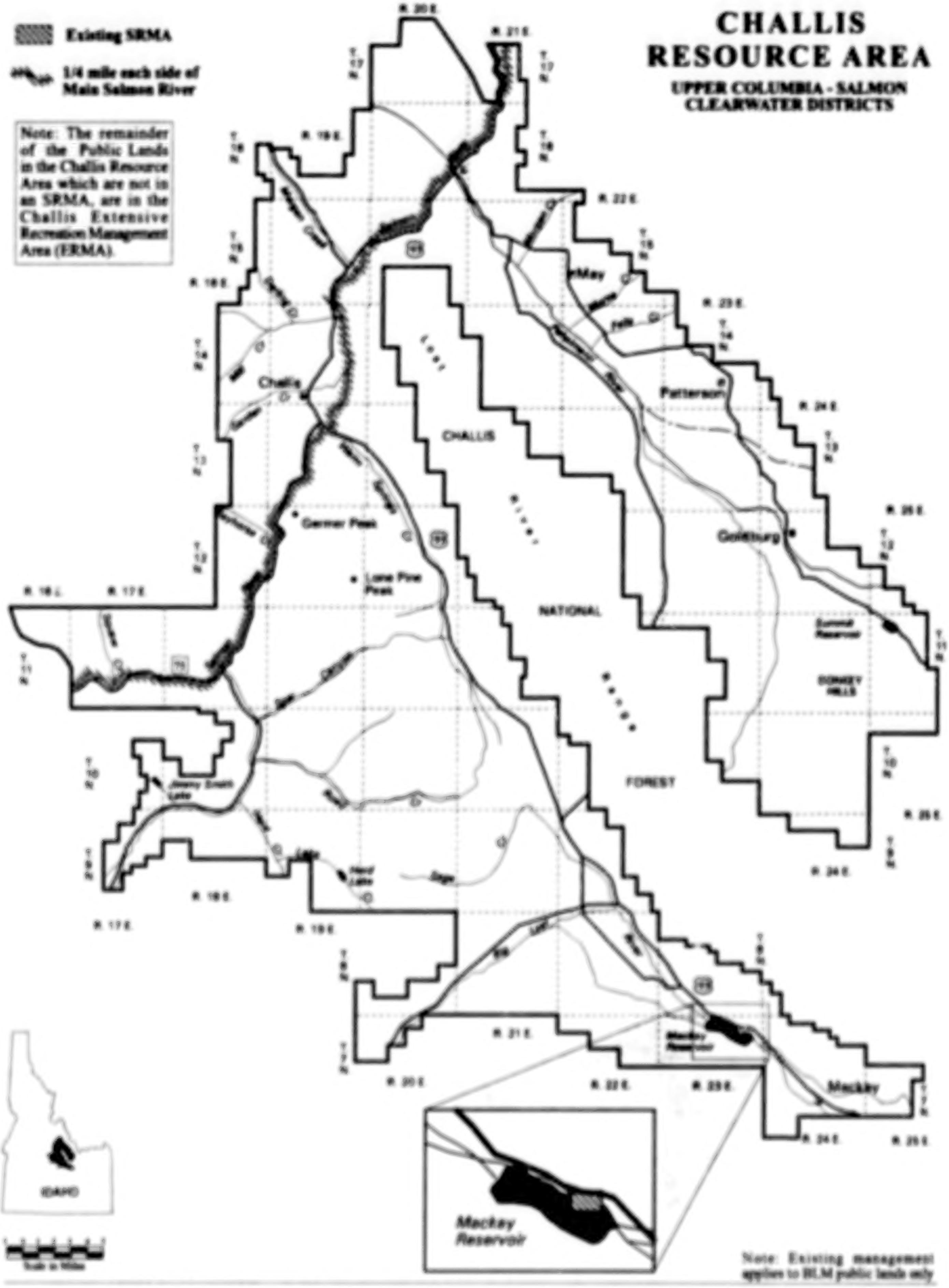
Table 3-12: Off-highway Vehicle Use Designations for the Challis RA*

OHV Use Designation	Challis OHV Plan (acres)	Pahsimeroi OHV Plan (acres)	Mackay OHV Plan (acres)	Total (acres)	Percent of Challis RA
Open[1]	185,756	294,889	83,628	564,273	71
Limited[1]	120,635	43,710	50,300	214,645	27
Closed[1]	14,302	0	0	14,302	2
Total	320,693	338,599	133,928	793,220	100

*Acres are approximations from the Challis, Ellis-Pahsimeroi, and Mackay Management Framework Plans, and therefore do not equal the total acreage for the Challis Resource Area (792,567 acres).

[1] See *Glossary* definition: off-highway vehicle use designations.

Motorized travel visits include sightseeing, wildlife viewing, hunting and fishing, visiting interpretive sites, gaining access for nonmotorized recreational activities and others. Nonmotorized travel visits include hiking, backpacking, horse packing, hunting and fishing, horseback riding, bicycling, and overnight camping. Currently, 12 outfitters have special recreation use permits for upland guiding, river floating, and fishing guiding.



CHALLIS RESOURCE AREA

UPPER COLUMBIA - SALMON
CLEARWATER DISTRICTS

▨ Existing SRMA

1/4 mile each side of Main Salmon River

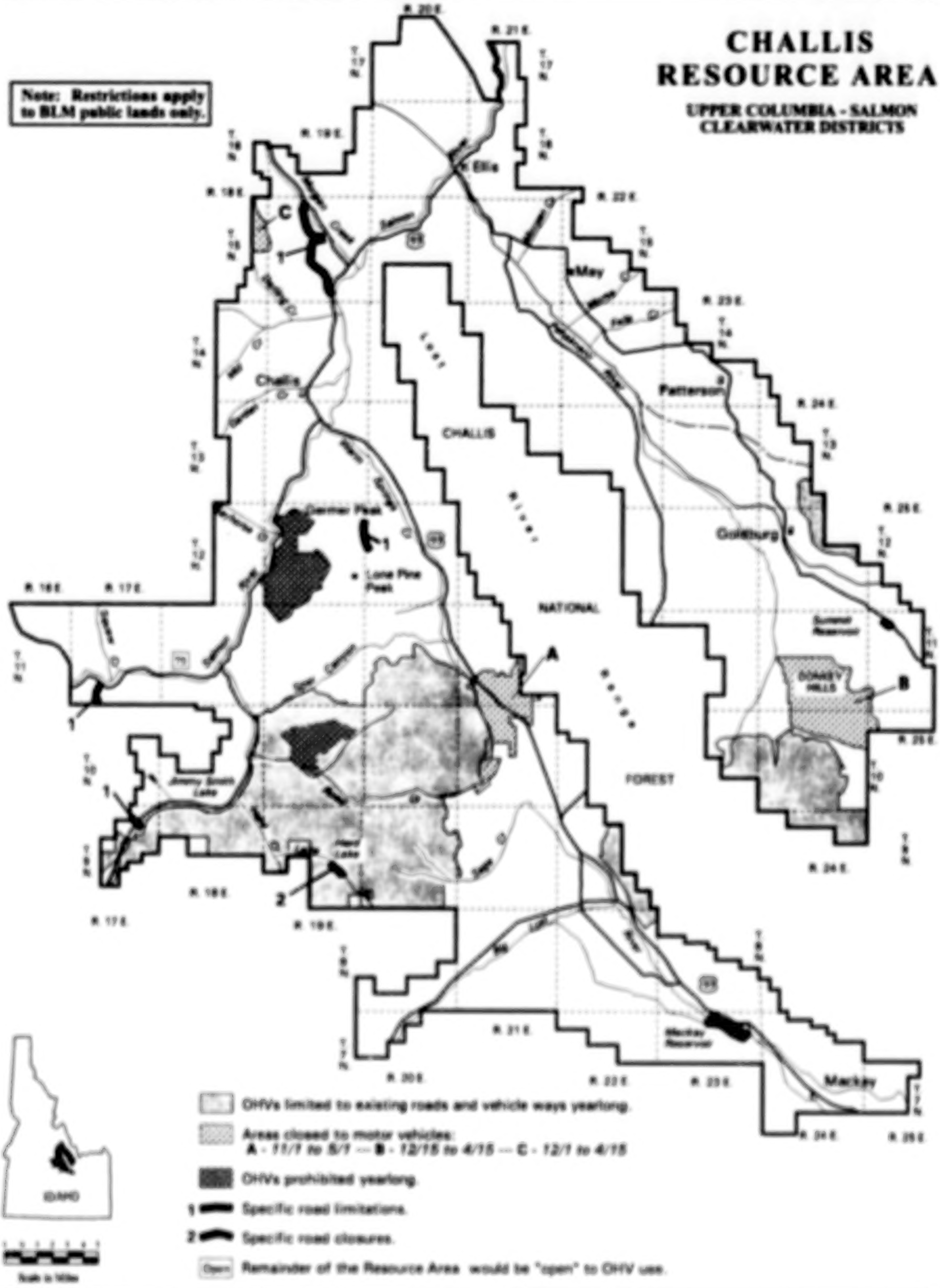
Note: The remainder of the Public Lands in the Challis Resource Area which are not in an SRMA, are in the Challis Extensive Recreation Management Area (ERMA).

Note: Existing management applies to BLM public lands only

BLM, Idaho State Office, Mapping/GIS, 1998

EXISTING OHV USE DESIGNATIONS (OHV)

Map 3-3



BLM, Idaho State Office, Mapping/GIS, 1998

Table 3-13 summarizes recent recreation use of the Resource Area by local and non-local visitors.

Table 3-13: 1993 Recreation Visits to the Challis Resource Area[1]

Recreation Use Category	*Percent of Total Visitation*	*Recreation Visits*
Fishing	22.5	26,775
Camping	15.3	18,100
Boating	6.0	7,160
Other Water Based Visits	3.1	3,625
Hunting	2.9	3,425
OHV Use	2.6	3,050
Winter Sports Visits	0.4	450
Other Land-Based Visits	47.2	55,950
Total Visits	**100.0**	**118,535**

[1] **Source:** Recreation Management Information System (RMIS).

Upper Salmon River SRMA

The Upper Salmon River Special Recreation Management Area (SRMA) includes approximately 42,160 acres under the following land ownership: 45 percent (18,860 acres,) is under BLM administration, 54 percent (22,790 acres) is privately owned, the Idaho Department of Fish and Game manages 250 acres, and the Idaho Department of State Lands (IDSL) manages 260 acres. The Recreation Opportunity Spectrum (ROS) evaluation of the Upper Salmon River SRMA designates 11,875 acres (63%) as roaded natural and 6,985 acres (37%) as rural (see *Glossary*: recreation opportunity spectrum, p. 180).

The Upper Salmon River SRMA lies within the Northern Rocky Mountain physiographic province. The upper Salmon River winds through a narrow gorge which opens out periodically in a series of basins. The interspersed canyon sections rise in multicolored cliff walls and eroded, steep slopes. The most dramatic canyon section is Cronk's Canyon, a narrow defile of sheer rock walls located just north of the mouth of the Pahsimeroi River. Portions of highways 75 and 93 which generally follow the Salmon River are designated as part of the Salmon River Scenic Byway.

Recreation opportunities include float boating on relatively swift Class I and II water; fishing for trout; hunting; camping; hiking; nature study, and photography. Scenic vistas include pastoral settings backdropped with mountain ranges, canyons with almost sheer rock walls, and densely vegetated islands. All recreation activities are enhanced by excellent scenery and unique fish and wildlife resources.

One hundred seventy-seven (177) miles of the Upper Salmon River and 20 miles of the East Fork Salmon River are listed in the *Nationwide Rivers Inventory* (National Park Service, 1982), which identifies potential additions to the National Wild and Scenic Rivers System. The 64 miles of the Salmon River being managed under this RMP are within the 177 mile stretch and are tentatively classified as "recreational" under the National Wild and Scenic Rivers Act classification system (see *Glossary* definition: Wild and Scenic River classifications). Additional information on the Wild and Scenic Rivers in the Challis Resource Area is provided in ***Chapter 3*** - Wild and Scenic Rivers, pp. 327-328, and in the PRMP, Wild and Scenic Rivers, pp. 98-100.

The BLM manages three developed recreation sites within the Salmon River corridor (see *Table 3-14* below). These sites have potable water, handicap-accessible sanitary facilities, and regular garbage collection. Six undeveloped sites on BLM lands have limited or no facilities (some sites have vault toilets, most of which are not handicap-accessible).

Table 3-14: Salmon River Corridor Developed Recreation Sites

Site	# of Campsites	Potable Water	Boat Access	Management Responsibility
East Fork	14	yes	no	BLM
Bayhorse	11	yes	no	BLM
Cottonwood	14	yes	yes	BLM/IDFG

Table 3-15 lists the name, location, and management responsibility of undeveloped access points considered to be important or heavily used.

Table 3-15: Undeveloped Salmon River Recreation Site Access Points

Site	Location	Boat Access	Management Responsibility
Deadman Hole	T12N, R19E, Sec. 10	excellent	BLM
Dugway	T12N, R19E, Sec. 6	poor	BLM
Challis Bridge	T13N, R19E, Sec. 10	good	BLM
Cottonwood	T15N, R20E, Sec. 10	fair	IDFG/BLM

Visits to the Upper Salmon River SRMA occur throughout the year. Steelhead trout fishermen arrive as soon as the ice breaks up in late winter or early spring. The end of spring steelhead season marks the start of the general trout season, floating season, and general tourist season when many visitors camp, fish, float, and sightsee. In the fall, big game hunters use the river corridor for base camps and, as the steelhead arrive, fishermen are again out until the river freezes. During the fall waterfowl hunters also find the river inviting.

Because of its narrow, steep, topographic configuration and the existence of established roads and highways, off-highway vehicle (OHV) use is minimal within the Salmon River corridor. The two existing OHV plans have designated the SRMA as "open" to OHV use (see *Glossary*: off-highway vehicle use designations and *Map 3-3: Existing OHV Use Designations*). Motorized travel visits include activities such as sightseeing, wildlife viewing, hunting, and fishing. Nonmotorized travel visits include hiking, backpacking horse packing, hunting and fishing, bicycling, and overnight camping. Currently, ten outfitters have fishing and/or floating guide permits along the Salmon River. All river outfitters operate under a Special Recreation Use Permit on a day-use basis.

Recreation facilities in the Salmon River SRMA are in worsening condition. Increased recreation pressure (including overuse and abuse of resources and facilities during heavy use seasons), combined with age of development and an inability to properly maintain sites, is damaging the facilities at an increasing rate.

Mackay Reservoir Recreation Site SRMA

The Mackay Reservoir Recreation Site SRMA lies on the north shore of the 1,341-acre Mackay Reservoir. The SRMA consists of 80 acres of public land that were withdrawn in 1966 from all forms of appropriation. Recreation facilities were constructed in 1968 and expanded in 1986 (see the *Mackay Reservoir Recreation Area Management Plan* (1984) and the *Mackay Reservoir Recreation Project Plan* (1985)). These facilities are the only major recreation developments adjacent to the reservoir, so most recreation activities center around the recreation site.

Most of the shore and surface of the reservoir are owned by the Big Lost Irrigation District. Local ranchers own a small amount of shoreline, with the remainder under BLM jurisdiction. Because of this ownership pattern, the shoreline is essentially in a natural state. Drawdown of the reservoir reaches its low point in late summer when downstream demand for irrigation is greatest.

Forty acres of the 80-acre SRMA have been developed with a full range of facilities to accommodate recreationists. This campground provides boating and access to the reservoir. There are 57 pull-through or back-in campsites with tables and grills. Some sites have sun shelters, and 18 sites have been developed to accommodate larger recreational vehicles. A small designated picnic area consists of four tables and one shelter for day use activities. There are seven double-vault handicap-accessible toilets and a trailer dump station on the site. A pressurized water system, operational from early May to mid-October, provides potable water. Garbage is picked up and toilets are cleaned once a week during the heavy use season. The boat launching facility is owned by the Irrigation District and includes a wide concrete ramp and two floating docks; the BLM offers a vehicle parking area. The docks are designed so they can adjust automatically to water levels.

A $6 per night fee is charged for camping (including trailer sewage dump access) and a $2 fee is charged to non-campers for dump station use.

There are three distinct use seasons: summer, fall and winter. Most recreation use occurs during the summer. Picnicking, camping, fishing, boating, and waterskiing are the most popular activities. During the summer months, a volunteer camp host is solicited and a camp host site (with water, electricity, sewage dump, and BLM radio) is provided. During the fall, recreationists use the SRMA for fishing and hunting base camps. Ice fishing on the reservoir began in 1984, when the Idaho Department of Fish and Game established a two-month (January and February) ice fishing season. The recreation site is used primarily as a convenient access to the reservoir.

Overall, the Mackay Reservoir Recreation Site SRMA is in fair condition. However, the site shows a downward trend because limited funding does not permit the BLM to adequately maintain the site or supervise its use; campers often complain about a lack of maintenance and security. Since the SRMA does not have regular law enforcement protection, the area has become a local "party" spot which disturbs and frightens other visitors.

Challis ERMA

The Challis Extensive Recreation Area Management Area (ERMA) is made up of approximately 750,000 acres of public lands that are not within an SRMA. The Challis ERMA ranges in elevation from about 4,200 feet near the Salmon River to over 10,000 feet at Jerry Peak and includes drainages of the Big Lost River, the upper Salmon River, the East Fork Salmon River, the Pahsimeroi River, and a small portion of the Little Lost River. Vegetation includes sagebrush, mountain mahogany, cottonwood, aspen, and coniferous forest ecosystems. The ERMA is used for hiking, fishing, hunting, boating, camping, rockhounding, four-wheeling, motorcycling, mountain biking, cross country skiing, snowmobiling, nature study, photography, bird watching, and many more recreational pursuits.

The three existing OHV plans designate portions of the ERMA as open, limited, or closed to OHV use (see *Glossary* definition: off-highway vehicle use categories). Motorized travel visits include sightseeing, wildlife viewing, hunting and fishing, and others. Nonmotorized travel visits include hiking, backpacking, horse packing, hunting and fishing, bicycling, and overnight camping.

Demand for primitive recreation opportunities in the ERMA is increasing in popularity, especially for general recreation and hunting. Two outfitters offering hunting, fishing and back country horse trips operate under a Special Recreation Use Permit in upland areas, including the WSAs. Seven WSAs totaling 141,260 acres are located in the ERMA; 38,930 acres have been recommended suitable for wilderness designation.

Generally, conditions within the ERMA seem to be satisfactory, except for the designated recreation sites listed in *Table 3-16* below. Most of these sites are in unsatisfactory condition. Toilets, fire-grills, and tables are deteriorating, while recreation resource use of the Challis ERMA is increasing. If current funding levels continue, some of the sites may have to be abandoned, since most toilets do not meet standards for health, safety, and access. The estimated current balance between supply and demand for recreational resources in the ERMA is shown in *Table 3-17*.

Table 3-16: Challis ERMA Designated Recreation Sites

site	# campsites	potable water	sanitation
Morgan Creek	5	no	yes
Summit Creek	9	no	yes
Barney Hot Springs	0	no	no
Garden Creek	0	no	no
Deep Creek	0	no	no
Black Daisy	0	no	no
Ziegler Hole	0	no	no
Jimmy Smith Trailhead	3	no	yes
Little Boulder Creek	3	no	yes
Herd Lake	3	no	yes
Herd Lake Overlook	0	no	yes
Upper Lake Creek	6	no	yes

Table 3-17: Estimated Supply and Demand for Recreation Activities in the Challis ERMA

Activity	*Supply*	*Demand*
OHV Recreation	High	Low
Hiking and Backpacking	High	Low
Camping (developed sites)	Moderate	Moderate
Camping (undeveloped sites)	High	Moderate
Fishing	Moderate	Low
Hunting	Moderate	Moderate
Mountain Biking	Moderate	Moderate
Winter Recreation	Low	Low

Source: Recreation Management Information System and professional judgement.

The following areas within the Challis ERMA receive special attention by recreationists or have quality recreation potential.

East Fork Salmon River

Located approximately 20 miles south of Challis, the East Fork Salmon River offers diverse recreational opportunities including fishing, hunting, wildlife viewing, camping, backpacking, photography, rockhounding, nature study, mountain biking, cross country skiing, and limited opportunities for motorized recreation (snowmobiling, motorcycling, all-terrain vehicles, and four-wheel drive vehicles).

A 20-mile segment of the East Fork Salmon River is recognized as "eligible" for a study to determine if the river is suitable for possible inclusion in the National Wild and Scenic Rivers (WSR) system (NPS, 1982; updated in 1991). The river currently has a tentative "recreational" WSR classification. The East Fork and Big Boulder Creek roads are designated by the BLM as Wildlife Viewing Routes.

The Road Creek, Dry Canyon, and Spar Canyon roads have been nominated as a potential addition to the BLM's Back Country Byway program. Proposed as "Wild Horse" Back Country Byway, the 40-mile road loop offers vast scenic vistas of roadless areas and opportunities to see the Challis wild horse herd and various range, wildlife, and riparian projects.

Four trailheads exist in this area. The Little Boulder Creek trailhead offers access into the Boulder-White Clouds, a vast USFS roadless area. The Sheep Creek trailhead offers access up Sheep Creek. The Jimmy Smith Lake trailhead and trail offers access to Jimmy Smith Lake and beyond. The Herd Creek trailhead offers access into the Jerry Peak and Jerry Peak West WSAs as well as adjacent Forest Service lands. In order to protect the resource and satisfy user needs, trailheads need further development and trail maintenance.

Big Lost River Valley

The Big Lost River Valley offers outstanding opportunities for wildland recreation, especially hunting, fishing, floating, wildlife viewing, camping, and mountain biking. A little-known 7.5 mile stretch of the Big Lost River jointly administered by the USFS and BLM is of exceptional scenic, recreational, fishery, geologic, cultural, and ecological values. The Mackay Reservoir, a designated wildlife viewing area with both developed and undeveloped recreation opportunities, is along the Big Lost River's course. The Chilly Slough and Thousand Springs Creek area is another designated wildlife viewing area. Waterfowl abound in this area and its proximity to Highway 93 creates an outstanding viewing opportunity.

The "White Knob Challenge," a 19 mile mountain bike race which originates in the town of Mackay, Idaho and climbs 2,600 feet into the White Knob mountains, is rapidly becoming one of the premier mountain bike races in the Northwest. In 1991 over 400 racers endured the grueling climb. This race and casual use by bicyclists is bringing over $150,000 in business to Mackay each summer (McKelvey 1990).

The Mount Borah trailhead located on the BLM/USFS boundary offers access to the proposed Borah Peak Wilderness (USFS RARE II and the BLM Borah Peak WSA). The Borah Peak trailhead offers access to Borah Peak, the highest point in Idaho at 12,655 feet.

Upper Salmon River Valley not within the Upper Salmon River SRMA

This portion of the Upper Salmon River Valley is primarily an upland environment with sheer steep cliffs bisected by small to moderately sized tributaries. This canyon environment is often the background viewshed for the river, and is therefore important to the integrity of the SRMA and the National Scenic Byway.

Mount Borah, highest point in Idaho (elevation 12,655 feet), located on U.S. Forest Service lands adjoining the Challis Resource Area.

Soils.

Law, Regulation, and Policy

The BLM's Soil Resource Management Program is conducted under the following major authorities:

The Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*)
Desert Land Act of 1977, as amended (43 U.S.C. 321 *et seq.*)
Soil Conservation and Domestic Allotment Act of 1935, as amended (49 Stat. 163)
Soil Info. Assistance for Community Planning and Resource Devel. Act of 1966 (42 U.S.C. 3271 *et seq.*)
Soil and Water Resources Conservation Act of 1977 (16 U.S.C. 2001 *et seq.*)
Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 *et seq.*).

Affected Environment

The Challis Resource Area is generally characterized by broad valleys and steep-sided, narrow mountain ranges. Soils vary with local geology, topographic relief, and climate. Many soils in the RA are residual (developed in place), and formed from weathered sedimentary bedrock (dolomite, limestone, quartzite, and argillites) and the Challis volcanics (Germer tuffaceous material and basalt). Some soils in the Challis Resource Area are alluvial (deposited by running water). Alluvial soils are developed from a variety of materials washed from the uplands and high landscapes and redeposited as alluvial fans or redeposited along stream courses. Stream courses occupy the comparatively narrow, elongated, continuous or broken strips along most of the major drainages. Soluble salts are present in varying quantities in most alluvial soils.

Third order soil surveys were conducted by the USDA Soil Conservation Service in 1981 (Mackay Planning Unit) and 1982 (Challis and Pahsimeroi Planning Units). Third order surveys are made for land uses spanning a broad geographical area (*e.g.*, range, forestry, recreation, or residential communities) that do not require precise knowledge of small areas or detailed soils information. One product of a third order soil survey is a general soils map that describes major soil groups within large mapping units. *Table 3-18* summarizes the major soil series groupings in the RA and is indexed to *Map 39: Soils.*

On gently rolling uplands (0 to 30% slope), slightly altered bedrock is often more than 40 inches below the surface. On more rolling lands (20 to 50% slope), the depth to bedrock is about 20 to 40 inches. On steep slopes (30 to 60%), soil depths range from less than 10 inches to 20 inches and overlie partly weathered bedrock. Rock outcrops are common on steeper slopes with little or no soil development.

Soils management problems may arise in the RA, depending on a combination of factors: soils type, climate, geologic setting, and vegetative cover. In general, soils in the RA have relief and physical properties capable of absorbing nearly all the precipitation in the area, except for the occasional convective thunderstorm. However, overland flow and sediment transportation into streams are pronounced during periods of intense thunderstorms. (See *Table 3-31*, p. 301 for a description of the watershed erosion susceptibility for the RA.) Although vegetation is sparse in much of the RA due to the short growing season and distribution of effective moisture, the productive capacity ranges from 100 pounds per acre on the rough, broken lands to 3,000 pounds per acre on wet meadows. Surface disturbing activities (such as road construction, mineral resource development, or grazing) on soil series groups 8 and 11 can be sources of accelerated erosion. These soils have limited stability and are at risk of erosion if protective vegetative cover is not maintained, especially on steeper slopes. Soil series groups 10 and 17 also pose erosion risks due to naturally occurring sparse vegetation, often compounded by steep topography.

Table 3-18: Summary of Soils in the Challis Resource Area

Soils Series/Name	Description	Elevation (feet)	FFS* (days)	AAP** (inches)	Hazard Rating for Erosion/Compaction
1/ Pahsimeroi-Whiteknob-Zer	Gravelly sandy and gravelly loamy, nearly level to rolling, very deep, somewhat excessively drained soils on outwash fans and fan terraces derived from alluvium (or dominantly from quartzite).	4,800-6,300	50-90	8-11	slight to moderate
2/ Whitecloud-Simeroi	Gravelly sandy and gravelly loamy, very deep, somewhat excessively and well drained soils on outwash fans and fan terraces derived dominantly from limestone alluvium.	4,800-6,300	50-90	8-11	slight
3/ Ringle-Snowslide	Gravelly sandy and gravelly loamy, nearly level to rolling, very deep, somewhat excessively drained soils having little organic matter on outwash fans and fan terraces derived dominantly from limestone alluvium.	4,000-6,300	50-90	6-8	slight to moderate
4/ Keele-Perreau-McDevitt	Loamy over gravelly sandy, loamy and clayey, nearly level to rolling, deep, poorly to well drained soils on stream terraces and valley bottoms derived from alluvium.	3,900-6,300	50-100	8-13	moderate
5/ Chamberlain-Wiggleton-Firebox	Gravelly sandy and gravelly loamy, nearly level to rolling, very deep, well and somewhat excessively drained soils on outwash fans and fan terraces derived from alluvium.	6,500-7,500	20-40	13-16	slight
6/ Arbus-Mountainboy-Fandow	Gravelly sandy and gravelly loamy, nearly level to rolling, very deep and shallow to a duripan, somewhat excessively and well drained soils on outwash fans and fan terraces derived from limestone alluvium.	6,300-7,200	30-50	8-14	slight
7/ Thousand-Redfish-Copperbasin	Nearly level or gently undulating, very deep, very poorly to somewhat poorly drained soils on valley floors derived from alluvium.	6,000-7,400	10-40	8-13	slight

Soils Series/Name	Description	Elevation (feet)	FFS* (days)	AAP** (inches)	Hazard Rating for Erosion/Compaction
8/ Cryoborolls-Cryochrepts-Koffgo	Gravelly loamy, steep to extremely steep, shallow through very deep, well drained soils on mountains derived dominantly from quartzite and extrusive igneous rocks.	6,000-10,000	10-30	15-35	moderate to severe; severe on slopes greater than 35%
9/ *Zoehar*-Friedman-Donkeyhill	Gravelly loamy and gravelly clayey, shallow to very deep, well drained soils on mountains and foothills derived from extrusive igneous rocks.	6,000-9,000	10-50	12-22	moderate
10/ Heathcoat-Escarlo	Clayey and loamy, undulating to steep, very deep, well drained soils on foothills derived from lacustrine sediments.	6,500-7,500	30-50	11-16	slight to moderate
11/ Lag-Klug-Povey	Gravelly loamy, very deep, well drained soils on mountains and foothills derived dominantly from quartzite, phylite and slate.	6,000-9,300	10-50	13-23	moderate to severe; severe on slopes greater than 35%
12/ *Zeale*-Meegero-*Zeelnot*	Gravelly loamy, very deep, well drained soils on mountains and foothills derived dominantly from limestone.	6,000-8,500	10-50	11-19	slight to moderate
13/ Gany-Skibo	Gravelly loamy and stony loamy, hilly to very steep, very deep, well drained soils on mountains derived dominantly from limestone.	6,000-9,000	10-50	13-23	moderate
14/ Orthids-Dawtonia-Cronks	Gravelly loamy, hilly to extremely steep, shallow to very deep, well drained soils on mountains and foothills derived dominantly from extrusive igneous rocks and quartzite.	3,800-6,500	45-100	8-13	slight to moderate
15/ Dawtonia-Fraiton-Gradco	Gravelly loamy, hilly to very steep, shallow to very deep, well drained soils on mountains and foothills derived dominantly from extrusive igneous rocks.	4,300-6,000	60-90	8-11	slight to moderate
16/ Farvant-Mitring-Bayhorse	Gravelly loamy, rolling to steep, shallow and moderately deep, well drained soils derived dominantly from extrusive igneous rocks.	5,000-6,000	60-90	7-11	slight to moderate
17/ Millhi-Lacrol-Kehar	Clayey, undulating to steep, very deep, moderately well drained soils on foothills and in basins derived from lacustrine sediments.	3,900-6,800	50-100	7-16	slight to moderate

*Frost-free season
**Annual average precipitation

Source: USDA Soil Conservation Service third order soil surveys for the Mackay Planning Unit (1981) and the Challis and Pahsimeroi Planning Units (1982).

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Transportation.

Law, Regulation, and Policy

BLM authority for transportation management is primarily derived from the following sources:

Federal Land Policy and Management Act of 1976 (43 U.S.C. 1715, 1737, 1762).
National Trails System Act, as amended (1968) (16 U.S.C. 1241 *et seq*).
Wild and Scenic Rivers Act, as amended (1968) (16 U.S.C. 1271 *et seq*).
The Federal-Aid Highway Act of 1962, as amended (23 U.S.C. 214).
The Federal-Aid Highway Act of 1968, as amended (23 U.S.C. 116).
The Federal-Aid Highway Act of 1973, as amended (23 U.S.C. 217).
Timber Access Road Act of 1955 (69 Stat. 374).
The Sustained Yield Act of 1937 (43 U.S.C. 1181a *et seq*).
Highway Safety Act of 1966, as amended (23 U.S.C. 401, 402, 403).
National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321, *et seq*).
Endangered Species Act of 1973, as amended (16 U.S.C. 1531, *et seq*).
Archeological and Historic Preservation Act of 1974, as amended (16 U.S.C. 469).
Clean Water Act of 1977 (33 U.S.C. 1288, 1323, 1342, 1344).
Surface Transportation Assistance Act of 1982 (P.L. 97-424, Section 126(d)).

Affected Environment

The Challis Resource Area contains 718 miles of inventoried roads (see *Map 22: Existing Maintained Roads*). These roads provide physical access to public, State, and private lands throughout the Resource Area. Demands for transportation in the Resource Area are directly related to the natural resources found on public lands. A transportation system is needed for (a) the public's commercial activities (*e.g.*, livestock grazing, timber harvest, minerals development, outfitting) and noncommercial activities (*e.g.*, OHV use, hunting, fishing, rafting, camping, other recreational uses, firewood gathering), and (b) BLM administrative use to manage resources and programs.

State Highway 75 and U.S. Highway 93 pass through the Resource Area and account for approximately 112 miles of the roads identified by the BLM. These highways are under State of Idaho jurisdiction and the State is responsible for their maintenance and liability. The highways are hard surfaced with asphalt paving, highly developed, and well maintained.

Custer County and the Lost River Highway District are responsible for 213 miles of the roads identified as crossing BLM administered lands within the RA. County roads serve as major collectors and artery roads for the regional transportation system by providing access between the State highways and from the State highways to privately owned land and homes in the rural areas. County roads are generally two lane and are either asphalt paved or graveled. Essentially all of these roads are easily accessible by two wheel drive vehicles during good weather. Custer County and the Lost River Highway District are responsible for maintaining both the roads and any facilities associated with the roads (*e.g.*, bridges, culverts, and cattleguards). These roads are generally well maintained, and most of them are kept open yearlong.

The Salmon and Challis National Forests are responsible for maintaining 54 miles of roads on BLM administered lands within the RA. These roads cross BLM lands and provide access to Forest Service administered lands. They are generally dirt, single lane roads without gravel or asphalt surfacing. During dry summer weather, about half of the roads are easily accessible by two wheel drive vehicles; four wheel drive vehicles are recommended for the other roads. Most of the roads are maintained on a regular basis. None of the roads are kept open yearlong by the Forest Service.

BLM roads account for 339 miles of inventoried roads within the RA. These roads are secondary in nature and provide access to public lands administered by the BLM. Almost all of the roads are single lane. All are dirt roads; none are paved or graveled. Many of the BLM roads within the RA are in poor condition due to (a) limited maintenance and (b) use during saturated soil conditions when the roads are most susceptible to damage. On the average 20 miles of BLM roads are maintained annually by BLM force account crews.

Existing easements providing access to BLM lands are shown in *Table 3-19*. However, not all BLM roads have legal access for public use. Twenty-six (26) roads have been identified as needing 41 easements - 28 across private land and 13 across State land (see *Table 3-20*). As funding and priorities allow, these easements are being pursued. On the average, one road easement every 3 years is being obtained within the Resource Area.

One hundred three (103) miles of BLM roads are currently classified for Level 3 maintenance. This level is for roads with average daily traffic of 15 vehicles which are open seasonally or occasionally yearlong (for example, the Road Creek, Dry Canyon, and Peck's Canyon roads). Maintenance is on a regularly scheduled interval of two to four years, with goals of keeping drainage functional, maintaining roadway prism shape and sight distance, and considering driver safety and convenience. Level 3 roads are fairly evenly distributed through the Resource Area. Most Level 3 roads are readily accessible by two wheel drive vehicles during good weather.

Two hundred and twenty (220) miles of BLM roads are assigned Level 2 maintenance. Level 2 maintenance is on an "as-needed" basis, generally only when required to repair flood damage, correct public safety problems, or correct or avoid extensive resource damage. Level 2 roads are open seasonally and receive moderate to light use. Maintenance involves brush and obstruction removal, maintenance of drainage facilities, and minimum maintenance of road prism. Level 2 roads either typically receive relatively low use and are located in good soils that hold up well to the test of time and weather, or are primitive two track roads (only suitable for four wheel drive vehicles) which require an extensive amount of work and ground disturbance to maintain (generally, the two track roads are not important enough to justify those actions). About half of the Level 2 roads are easily accessible by two wheel drive vehicles during good weather.

Table 3-19: Easements Allowing Access to Public Lands

Road Name	**Road Number**	**Easement Number**	**Type of Easement**[1]
Herd Creek	1901	IDI-20990	Exclusive
Herd Creek	1901	IDI-20993	Exclusive
Herd Creek	1901	IDI-016844	Exclusive
Road Creek	1902	IDI-14714	Exclusive
Road Creek	1902	IDI-17484	Exclusive
Road Creek	1902	IDI-14713	Exclusive
Dry Gulch	1909	IDI-14714	Exclusive
Dry Gulch	1909	IDI-27586	Exclusive
Darling Creek	1920	IDI-13664	Exclusive
Darling Creek	1920	IDI-15275	Exclusive
Darling Creek	1920	IDI-20995	Nonexclusive
Broken Wagon	1928	IDI-15276	Exclusive
Grouse Creek	1937	IDI-19432	Exclusive
Donkey Creek	1939	IDI-22062	Exclusive
Poverty Flat	1992	IDI-22063	Exclusive
Little Morgan	3061	IDI-4914	Exclusive
Falls-Patterson Creek	30104	IDI-8406	Exclusive

[1] Exclusive easements are for both public and BLM access. Nonexclusive easements are for BLM use only.

Sixteen (16) miles of BLM road are designated for Level 1 maintenance; all road mileage is within five roads. Level 1 maintenance is done to provide access for emergency cases only, such as for a major wildfire or an aircraft crash. Level 1 roads are normally blocked or open only for restricted traffic. Maintenance, if any, entails maintaining culverts and other drainage facilities. Slides, fallen trees, and brush are left unless they affect roadbed drainage or totally block the road. Four wheel drive vehicles are recommended for all Level 1 roads.

The Resource Area has three trails, totaling 3 miles, that the BLM administers and maintains. Two of the trails, Herd Lake (1.5 miles) and Jimmy Smith Lake (0.5 mile), provide access from parking and camping areas to lakes. The third trail, Boulder Creek (1.0 mile), provides access across BLM public lands to the White Cloud trail system. The trails are not on a regular maintenance schedule, but are maintained as needed.

Two authorized airstrips are located on BLM-administered lands within the Resource Area - one near May, in the Pahsimeroi Valley, and the other along the Trail Creek Road, near Twin Bridges. Neither airstrip has permanent buildings or hard surface runways. Both airstrips are only suitable for light aircraft.

Access to boat ramps is available on BLM-administered lands within the Resource Area at several locations along the Salmon River. Developed boat ramps are located at three recreation sites:

Deadman Hole, Steel Bridge, and Cottonwood. Primitive boat ramps are available near the East Fork recreation site and near the Bayhorse recreation site ("Dugway").

Table 3-20: Easements Needed to Ensure Public Access, by Ownership

Road Name	Road #	Number of Easements Needed *Private*	*State*	Miles of Easement	Township	Range	Section
Road Creek	1902	1	0	1.0	9 N	20 E	[illegible], 12
Malm Gulch	1905	0	1	0.1	12 N	19 E	19
Lone Pine	1916	1	1	1.3	11 N	20 E	3
					13 N	19 E	36
Lower Cedar Creek	1918	2	0	0.5	7 N	24 E	14, 23, 27
Jones-Cedar Creek	1919	1	0	0.5	8 N	[illegible]	22
Bear Wallow-Gossi Spring	1925	0	1	1.3	11 N	19 E	36
Broken Wagon	1928	2	0	1.0	11 N	20 E	19, 35
					11 N	21 E	30
Meadow Creek	1931	1	0	0.3	14 N	21 E	25
Pahsimeroi	1934	1	0	1.0	11 N	23 E	14
West Donkey	1935	0	1	1.0	12 N	23 E	36
Howell Canyon	1944	0	1	1.0	9 N	20 E	36
Cedar Creek Loop	1947	1	1	1.8	9 N	22 E	16, 21
Substation	1951	1	0	0.3	13 N	20 E	19
Gooseberry-Sheep	1955	1	1	2.0	11 N	21 E	16, 20, 21, 22
Hillside	1962	1	0	1.5	12 N	24 E	16, 23
Bradbury Flat SW	1970	0	1	0.8	13 N	19 E	36
Camp Creek	1980	3	0	0.75	13 N	19 E	12
					13 N	20 E	6, 7
Centennial Flat	1991	1	0	1.2	12 N	19 E	18, 19
					12 N	18 E	24
South Butte	1994	1	1	2.0	11 N	17 E	16, 21
Sink Creek	1995	2	0	1.8	11 N	18 E	1, [illegible], 11, 14
					12 N	19 E	35, 36
Donkey Timber	1996	1	0	0.3	11 N	[illegible]	8
Elkhorn	1998	0	1	1.3	11 N	[illegible]	36
Bartlett Point A	19143	1	1	2.0	8 N	21 E	[illegible], 14, 36
Mill Creek	30100	2	1	1.0	13 N	23 E	2
					13 N	24 E	16, 21
Falls-Patterson Creek	30104	1	0	1.0	14 N	23 E	7, 18, 20
Big Creek	30150	3	1	2.0	13 N	22 E	1
					14 N	22 E	36
					13 N	23 E	6

Tribal Treaty Rights.

Law, Regulation, and Policy

BLM coordination or consultation with Native Americans which pertains to treaty rights and trust responsibility is conducted pursuant to the following direction:

> Idaho Manual Supplement 1127 - Public Participation (Release 1 - 243; July 2, 1985).
>
> Bureau Manual Handbook H-8160-1 - General Procedural Guidance for Native American Consultation (Washington Office Information Bulletin No. 95-57; November 15, 1994).
>
> Government-to-Government Relations with Native American Tribal Governments (Memorandum signed by President Clinton; April 29, 1994).
>
> Order No. 3175 - Departmental Responsibilities for Indian Trust Resources (Section 2 of Reorganization Plan No. 3 of 1950 - 64 Stat. 1262; November 8, 1993).

Treaties are negotiated contracts made pursuant to the Constitution of the United States and are considered the "supreme law of the land." They take precedence over any conflicting state laws by reason of the supremacy clause of the Constitution (Article 6, Clause 2). Treaty rights are not gifts or grants from the United States, but are bargained-for concessions. These rights are grants-of-rights *from* the tribes, rather than to the tribes. The reciprocal obligations assumed by the Federal government and Indian tribes constitute the chief source of present-day Federal Indian law.

The United States and represented agencies, including the BLM, have a special trust relationship with Indian tribes because of these treaties. As a Federal land managing agency, the BLM has the responsibility to identify and consider potential impacts of BLM plans, projects, programs, or activities on Indian trust resources (*e.g.*, fish, game, and plant resources - see *Glossary*). When planning any proposed project or action, the BLM must ensure that all anticipated effects on Indian trust resources are addressed in the planning, decision, and operational documents prepared for each project. The BLM also has the responsibility to ensure that meaningful consultation and coordination concerning tribal treaty rights and trust resources are conducted on a government-to-government basis with Federally recognized tribes.

Affected Environment

Native American Indians inhabited central Idaho, including lands now known as the Challis Resource Area, for thousands of years prior to European contact. They hunted, fished, gathered plant foods, buried their dead, and conducted religious ceremonies on lands within current RA boundaries since time immemorial. Their lives and culture were dismantled by settlement of America when large numbers of immigrants seeking land tried to displace the tribes. During the 1850s and 1860s treaties were negotiated with the tribes in the northwestern United States in order

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to acquire Indian lands for homesteading. The settlement of the northwestern United States by non-Indians led to the collapse of the Tribal Nations as they were previously known, including their economic, social, cultural, religious, and governmental systems.

On July 3, 1868 the Eastern Band Shoshone and Bannock Tribes and the United States signed the *Treaty with the Eastern Band Shoshoni and Bannock, 1868*, commonly referred to as the Fort Bridger Treaty (15 Stat. 673). In the Fort Bridger Treaty the Tribes relinquished ownership of approximately 20 million acres to the United States. The Challis Resource Area is entirely comprised of aboriginal, traditional, or unoccupied lands for which the Tribes' right to use such lands was negotiated in the Fort Bridger Treaty. Among other items of agreement, the Fort Bridger Treaty guarantees a permanent homeland for the Shoshone and Bannock people, which has become known as the Fort Hall Indian Reservation in southeastern Idaho. The Treaty also retains the Tribes' rights to hunt, fish, and gather natural resources, and provides other associative rights necessary to effectuate these rights on unoccupied lands of the United States.
Since the BLM manages portions of the "unoccupied lands" that are mentioned in the Treaty, the BLM has a trust responsibility to provide the conditions necessary for Indian tribal members to satisfy their treaty rights. Treaty rights in the Challis RA are extended not only to the Shoshone-Bannock Tribes, but also to other Federally recognized tribes which may have treaty language that extends their rights to lands in this area.

Members of the Shoshone-Bannock Tribes and other Federally recognized tribes exercise their hunting, fishing, and gathering rights on at least state and Federal lands outside the boundaries of their reservations. Currently, Native American tribes are not dependent on commodity resources from the Challis RA for their economic livelihood. However, they do rely on BLM public lands resources for subsistence and cultural purposes. Tribal treaty rights pursued on public lands within the Challis Resource Area include fishing for anadromous and resident game fish species, hunting both large and small game, and gathering various natural resources for both subsistence and medicinal purposes. Little specific information is available on the exact species sought or locations used by Native Americans exercising their treaty rights in the RA.

Elk are utilized by tribes with treaty rights to hunt, fish, and gather natural resources in the Challis Resource Area.

Vegetation.

This section discusses the affected environment for several components of the topic "vegetation": upland vegetation; riparian/wetland vegetation; special status plant species; and noxious weeds. Vegetation manipulations are discussed in ***Chapter 3*** under the section "Livestock Grazing - Range Improvements. Forested habitat is primarily described in the "Forest Resources" section.

Vegetation may be considered many resources: the condition and use of vegetation determines its resource state, the demand made upon the vegetation, and its ability to supply that demand. Vegetation in the Challis Resource Area has the following uses/demands as a resource: forage for livestock; forage for wild horses; forage and habitat (*e.g.*, nesting areas, thermal protection, hiding cover) for huntable wildlife; forage and habitat (*e.g.*, display areas) for non-huntable wildlife; watershed protection (*e.g.*, erosion reduction); recreation/aesthetics (*e.g.*, shade, naturalness); water quality protection (*e.g.*, sediment reduction); and fisheries habitat (*e.g.*, nutrient input and cycling, temperature moderation).

Law, Regulation, and Policy

Upland Vegetation: Guidance for management of upland areas is generally found in three laws: (a) the Taylor Grazing Act of 1934 (43 U.S.C. 315), which directs the Secretary of the Interior to stop injury to public lands, (b) the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701), and (c) the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901), which calls for an intensive public rangelands maintenance, management, and improvement program to address and correct unsatisfactory conditions. BLM policy on upland range vegetation is contained in *The State of the Public Rangelands 1990, The Range of Our Vision* (BLM 1990) and *Rare Plants and Natural Communities* (BLM 1992). *The State of the Public Rangelands 1990* establishes a goal of increasing the area in late seral to potential natural stage to 40% (68 million acres nationwide) by 2009 and reducing the area in early seral stage to 10% (17 million acres nationwide) by 2009.

Riparian/Wetland Vegetation: Management of riparian/wetland areas on public lands is conducted under several laws and executive orders. An expanded description of these laws and executive orders is provided in *Appendix E, Item 1*, pp. 638-643.

1) The Taylor Grazing Act of 1934 (43 U.S.C. 315).
2) Land and Water Conservation Fund Act of 1964 (16 U.S.C. 460 (4-11) and 23 U.S.C. 120).
3) Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*).
4) Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701).
5) Clean Water Act of 1977 (33 U.S.C. 404).
6) Food Security Act of 1986 (7 U.S.C. 1281 note).
7) Emergency Wetland Resources Act of 1986 (16 U.S.C. 3901).
8) Water Quality Act of 1987 (33 U.S.C. 1251).
9) Executive Order 11988.
10) Executive Order 11990.

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Department of the Interior Manual 520 provides policy on preservation, protection, and acquisition of riparian/wetland areas. BLM Manual 1737 provides guidelines for protecting and acquiring riparian/wetland areas as needed to protect this habitat type.

Special Status Plant Species: Rare species are afforded protection under the Endangered Species Act of 1973, as amended, and under BLM regulations. The mandates of the Endangered Species Act only apply to rare species that have been officially listed as threatened or endangered, are proposed for listing, or are candidates for listing (BLM Manual 6840). The BLM is required to consult with the U. S. Fish and Wildlife Service (USFWS) on potential impacts to listed plant species. The USFWS also suggests the BLM consult with them informally when assessing projects that may impact candidate species.

BLM sensitive species are designated by the State Director under 16 U.S.C. 1536 (a)(2). Sensitive species shall be managed so they will not need to be listed as proposed, threatened, or endangered, with the same level of protection as candidate species (BLM Manual 6840). Sensitive plant species are also identified by other agencies (*e.g.*, USFS Regional Offices, the Idaho Natural Heritage Program (now Conservation Data Center), and the Idaho Native Plant Society). Management of one sensitive species, the wavy leaf thelypody (*Thelypodium repandum*), is guided by a Conservation Agreement with the USFWS (USDI-BLM 1990c).

Wavy Leaf Thelypody

Noxious Weeds: Two Federal laws explicitly direct that infestations of weeds on Federal land will be controlled: (a) the Federal Noxious Weed Act of 1974 (7 U.S.C. 2801-2813), as amended by Section 15, Management of Undesirable Plants on Federal Lands, 1990, and (b) the Carson-Foley Act of 1968 (PL 90-583). Idaho's noxious weed law (Chapter 34, Idaho Code) places responsibility for noxious weed control on Federal lands with the Federal government. The *Final Environmental Impact Statement Vegetation Treatment on BLM Lands in Thirteen Western States* (USDI-BLM 1991) analyzes treatment of undesirable plants for all BLM lands in the 13 Western states. This document specifies the following vegetation management priorities: (1) take preventative actions to minimize the need for control; (2) use effective non-chemical methods when and where feasible; and (3) use herbicides after considering the effectiveness of all potential methods or in combination with other methods of control. The EIS also identifies several actions that are to be implemented as standard design features for weed control projects (see PRMP, *Attachment 5: Standard Operating Procedures* - Noxious Weeds, p. 110). Noxious weed control was analyzed by the BLM in the *Northwest Area Noxious Weed Control Program Final EIS* (USDI-BLM 1985, supplemented 1987). This EIS described and analyzed the environmental impacts of implementing a five-state program for the control of noxious weeds. A worst-case analysis of impacts on human health from herbicide use was included. An environmental assessment which tiers to this EIS is prepared by the Salmon District BLM each year to describe and assess the local impacts of noxious weed treatments.

Affected Environment

The following sub-sections generally describe vegetation in the Challis Resource Area by habitat and community type, species composition, and condition and trend (where that information is known).

Upland Vegetation

The Challis Resource Area lies within the Northern Rocky Mountains physiographic region (BLM Manual 6602). The "potential natural vegetation" of the area was classified by Küchler (1964) as "western shrub and grassland," which is further categorized as follows.

Sagebrush Steppe (*Artemisia-Agropyron*): Dense to open grasslands with a dense to open shrub component. Dominant vegetation includes bluebunch wheatgrass (*Agropyron spicatum*) and big sagebrush (*Artemisia tridentata*). Other vegetative components include *Artemisia arbuscula, A. nova, Balsamorrhiza sagittata, Festuca idahoensis, Lithospermum ruderale, Lupinus sericeus, Oryzopsis hymenoides, Phlox* spp., *Poa nevadensis, P. secunda, Purshia tridentata,* and *Sitanion* spp. Microbiotic soil crusts provide for nutrient cycling and erosion control.

Western Ponderosa Forest (*Pinus*): Medium dense to open forest of tall needleleaf evergreen trees with a fairly open ground cover of grasses and occasional shrubs. Dominant vegetation includes Ponderosa pine (*Pinus ponderosa*). Other vegetative components include *Achillea millefolium* var. *lanulosa, Agropyron spicatum, Arctostaphylos nevadensis, A. uva ursi, Carex geyeri, Festuca idahoensis, Hieracium* spp., *Lupinus* spp., *Poa secunda, Purshia tridentata,* and *Symphoricarpos albus.*

Grand Fir/Douglas-fir Forest *(Abies-Pseudotsuga)*: Tall, needleleaf evergreen forest. Dominant vegetation includes Grand fir (*Abies grandis)* and Douglas-fir (*Pseudotsuga menziesii).* Other vegetative components include *Larix occidentalis, Pinus monticola,* and *Populus tremuloides.*

Western Spruce/Fir Forest (*Picea-Abies)*: Dense to open forests of low to medium tall needleleaf evergreen trees; open forests with a component of shrubs and herbaceous plants. Dominant vegetation includes subalpine fir (*Abies lasiocarpa)* and Englemann spruce (*Picea engelmanii*). Other vegetative components include *Arctostaphylos uva ursi, Arnica cordifolia, Calamagrostis canadensis, Carex* spp., *Larix lyallii, Menziesia ferruginea, Pinus* *albicaulis, P. contorta, Populus tremuloides, Pseudotsuga menziesii, Shepherdia canadensis, Symphoricarpos albus, Tsuga mertensiana, Vaccinium* spp., and *Xerophyllum tenax*.

Vegetative inventories have been conducted for all BLM public lands within the Challis Resource Area. *Table 3-21: Vegetation Summary for the Challis Resource Area* presents acreage figures for the major vegetation types in the Resource Area and their major subtypes. *Map G: Vegetation* illustrates the extent and location of major vegetation types. Range condition and trend are discussed in ***Chapter 3*** - Livestock Grazing under the subsections "Rangeland Inventory" and "Rangeland Monitoring and Evaluation", pp. 247-249.

Riparian/Wetland Vegetation

A riparian area is defined as "an area of land directly influenced by permanent water. It has visible vegetation or physical characteristics reflective of permanent water influence. Lake shores and stream banks are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil." (BLM, 1990). Riparian zones within the Resource Area can generally be identified by the existence of riparian dependent vegetation such as cottonwoods (*Populus spp.)*, willows (*Salix spp.*), sedges (*Carex spp.*), and rushes (*Juncus spp.*).

Stream vegetation types of the Challis Resource Area are based on Youngblood *et al.* (1985), Tuhy and Jensen (1982), Hansen *et al.* (1988a), Hansen *et al.* (1988b), Hansen *et al.* (1989), and Padgett *et al.* (1989). A riparian vegetation type classification has not been completed for central Idaho, but the areas covered by the above documents surround the Resource Area. These classifications were primarily completed for the Forest Service, and thus focus on elevations above those found in the Challis Resource Area. Low elevation types are recognized, but the classification is based on fewer samples. With inventory work, additional low elevation types will likely be identified.

Major riparian types are summarized in *Table 3-22: Riparian Community Types*. Choice of which sites are appropriate for this area is based on the RMP ID team's professional judgement and knowledge of streams of the Resource Area.

Appendix I, Item 1 (pp. 653-655) shows all riparian species known or thought to occur in the Resource Area. This list is based on collections housed in the Salmon BLM Herbarium, literature review, and professional observation. Some riparian species may be classified as "desirable," because they are (a) unusual or uncommon, and therefore may be biodiversity indicators; (b) important for riparian function; (c) native riparian species; or (d) known indicators of riparian function, for they seem to be eliminated from low- to non-functioning riparian areas. *Table 3-23: Riparian Species Function and Management* identifies some common desirable riparian species which are especially important to riparian function. Other common riparian species are classified as "undesirable" because they are indicators of reduced functioning or they replace species with high functional values. *Table 3-24* identifies the undesirable riparian species of the Challis RA.

Table 3-21: Vegetation Summary for the Challis Resource Area*

	Big Lost-Mackay[1]	**Ellis-Pahsimeroi**[2]	**Challis**[3]
Shrub/grassland			
Mountain mahogany (*Cercocarpus ledifolius*)	18,463		4,085
Shadscale (*Atriplex confertifolia*)	1,230	38,212	32,909
Saltbush (*Atriplex nuttallii*)			1,934
Chicken Sage (*Tanacetum nuttallii*)	5,505	3,716	11,857
Three-tip sagebrush (*Artemisia tripartita*)		31,622	23,332
Big sagebrush (*A. tridentata*)		203,398	
Basin big sagebrush (*A. tridentata tridentata*)			2,298
Mountain big sagebrush (*A. tridentata vaseyana*)	96,911		72,920
Wyoming big sage (*A. t. wyomingensis*)	78,460		118,151
Low sagebrush (*A. arbuscula*)	56,745	61,310	2,081
Black sagebrush (*A. nova*)	41,609		12,312
Fringe sagebrush (*A. frigida*)	2,945		
Other	581		
Woody			
Coniferous forest (*Psuedotsuga menziesii*)	4,666	18,593	22,492
Juniper (*Juniperus communis*)	993		
Riparian			
Aspen (*Populus tremuloides*)	649		
Semi-wet meadow			424
Riparian (includes woody)			519
Sedge (*Carex* spp.)	578		
Rock (includes windswept ridge)	11,370	16,594	24,619
Lava Flows	7,469		
Talus	1,088		
Seedings	15,067	4,710	3,116
Burns			189
Goldburg		1,647	
Total	**351,582**	**380,458**	**333,238**

*This summary of vegetation found in the planning units is based on classifications used in earlier planning documents:

[1] Big Lost-Mackay Grazing Draft EIS, 1983, Chapter 3, p. 39 (includes the Mackay area and the Big Lost area, Idaho Falls District).

[2] Ellis-Pahsimeroi Draft Grazing EIS, 1981, pp. 3-7.

[3] Final Supplemental Environmental Statement on a Revised Range Management Program for the Challis Planning Unit, (1979), pp. 2-3.

Table 3-22: Riparian Community Types[1]

USFS, Intermountain Region	**Montana Riparian Association**
Conifer	Conifer
Calamagrostis canadensis c.t.	
Deschampsia cespitosa c.t.	None really appropriate
Poa pratensis c.t.	
Populus tremuloides	*Populus tremuloides*
Poa pratensis c.t.	*Poa pratensis*
Betula occidentalis c.t.	
	Salix geyeriana
Populus angustifolia	*Populus angustifolia*
Rosa woodsii c.t.	
Poa pratensis c.t.	*Poa pratensis*
Alnus incana	*Alnus incana*
mesic forb	No subcommunities
mesic graminoid	
Betula occidentalis	*Betula occidentalis*
mesic forb	No subcommunities
Poa pratensis	
Salix boothii	*Salix bebbiana*
Carex aquatilis	Most of Challis RA *S. boothii* and *S. bebbiana* meadows would probably key to here under this classification.
Carex rostrata	
Carex nebrascensis	
Poa pratensis	
mesic forb	
(*Mertensia, S. stellata, H. lanatum*)	
mesic graminoid	
(*C. lanuginosa, J. balticus, Glyceria striata*)	
Salix geyeriana	*Salix geyeriana*
Carex aquatilis	
Carex rostrata	*Carex rostrata*
Calamagrostis canadensis	*Calamagrostis canadensis*
Deschampsia cespitosa	*D. cespitosa (Juncus balticus)*
mesic graminoid	*Poa pratensis*
(*P. pratensis, C. lanuginosa, C. praegracilis*)	
Salix exigua	*Salix exigua*
mesic forb	No subtypes identified
mesic graminoid	
Poa pratensis	
Potentilla fruiticosa/Poa pratensis	*Potentilla fruiticosa/Poa pratensis*
Carex Communities	*Carex* Communities
C. aquatilis	*C. aquatilis*
C. rostrata	*C. rostrata*
C. simulata	*C. simulata*
C. nebrascensis	*C. nebrascensis*
Deschampsia cespitosa	*Deschampsia cespitosa*
Juncus balticus	*Juncus balticus*
Poa pratensis	*Poa pratensis*

[1] Two general riparian classifications are available for application to the Challis Resource Area. Padgett, Youngblood and Winward (1989) *Riparian Community Type Classification of Utah and Southeastern Idaho* and Youngblood, Padgett and Winward (1985) *Riparian Community Type Classification of Eastern Idaho and Western Wyoming* were developed by the Forest Service Intermountain Region and cover the area generally to the south of the Resource Area. The Montana Riparian Association documents (Hansen *et al.*, 1989; Hansen *et al.*, 1988a; Hansen *et al.*, 1988b) cover an area to the east of the Resource Area. Both classifications contain descriptions of community types that are found in the Challis Resource Area.

Table 3-23: Riparian Species Function and Management[1]

SPECIES	FUNCTION	MANAGEMENT
RIPARIAN TREE SPECIES		
Populus angustifolius Black cottonwood	Forms small stands along small, moderately steep gradient streams rather than extensive gallery forests (see *P. trichocarpa*, below). Important wildlife habitat; provides shade, bank protection, and erosion buffering.	Livestock use and recreational activity can reduce juvenile recruitment. Likely requires some flooding event to expose suitable colonizing substrate.
Populus tremuloides Quaking aspen	Important wildlife habitat, especially for beaver. Of limited distribution in the Challis RA, forming in areas of subsurface moisture (CE). Some stands along perennial stream channels provide important bank stability and shading functions.	Livestock browsing of young suckers combined with trampling and soil compaction can reduce the ability of the colony to rejuvenate (Mueggler 1985). Livestock use of juveniles combined with beaver use of adults can eliminate the stand. Management at Short Creek included a strategy of livestock exclusion and overstory removal.
Populus trichocarpa Black cottonwood	Main gallery forest species along the main Salmon River (CE). Provides important habitat for wildlife, attractive recreation sites, erosion buffering from adjacent upland activities.	Livestock use and recreational activity can reduce juvenile recruitment. Hansen *et. al.* (1988) states that this species and type is early seral, but work conducted in Colorado (Friedman, personal communication) suggests otherwise, although continued disturbance by flooding and deposition is important to maintaining stands. This species is a floodplain species; thus, locating recreation sites in these areas, however attractive, is risking damage to facilities by flooding.
RIPARIAN SHRUB SPECIES		
Alnus incana Thinleaf alder	Generally found on narrow, relatively steep riparian areas in the Challis RA. Provides bank stability, shade, wildlife habitat. Streams lined with this species develop deep narrow channels with excellent fisheries habitat. Species usually reduces understory production, so communities dominated by this species are of limited forage value.	Species is rarely browsed by livestock, but juveniles can suffer trampling damage. Channel downcutting and lowering of water table will also cause loss of this species. Resprouts readily when cut.
Betula occidentalis Water birch	Found along narrow, relatively steep riparian areas (CE), also at Summit Creek (unusual). Dense stands provide excellent thermal and hiding cover for wildlife, and enhance fisheries through bank stabilization and shading. Little value for forage.	Can be damaged by recreational and livestock trampling. Good sprouter, and easily established in revegetation efforts.
Cornus sericea Red Osier dogwood	Of limited distribution in the Challis RA, but found on relatively steep gradient, larger streams (Morgan, Thompson, Squaw creeks) (CE). Thick, extensive root system is especially effective for bank stabilization. Dense flexible twigs slow floodwater during extreme events.	Rarely utilized by livestock, and dense growth makes even trampling unlikely. Species may have use in revegetation work on degraded streams. Note that the species is most common on those streams recognized for anadromous fisheries potential.
Potentilla fruticosa Shrubby cinquefoil	The species is most commonly found in moist alkaline meadows, and appears to be an indicator of relatively high water tables (CE). Of limited value for bank stabilization since rarely found on banks, but important for structural diversity in meadows.	Species is browsed by livestock and game, and is used as an indicator of range condition (Davis 1952).
Prunus virginiana Choke cherry	Generally found along moderately steep, narrow riparian areas, sometimes as an understory to aspen or other trees.	Can be poisonous to livestock, especially during drought, on overgrazed ranges, or after leaves have been frosted (USDA 1968, Budd 1979).
Rosa woodsii Wood's rose	Wildlife habitat and food (hips) for small mammals and birds. Stabilizes seepage areas, but of limited occurrence on streambanks.	Strongly grazing tolerant, thus potentially an increaser under heavy use (CE). Readily sucker and easy to establish through planting. Potential for use as a barrier (CE) to manage riparian zones.

SPECIES	FUNCTION	MANAGEMENT
Salix lemmonii, S. boothii, S. geyeriana, S. drummondiana willows	All four of these willow species are critical for bank stabilization. Streams supporting these species are generally not armored by rocky banks or bottoms; thus, the shrubs become more critical for reducing side- and head-cutting. They also provide thermal and hiding cover for wildlife, forage for native ungulates and beaver, and non-game habitat. It is likely that especially *S. boothii* colonizes and stabilizes beaver dam areas, an important function in raising water tables, widening riparian areas, and creating additional bank storage.	Streams supporting these species have the most potential for development of wide riparian areas and wet meadows. Because of the lack of protective rock substrate, these are also the most susceptible to livestock impact, with associated downcutting.
Salix exigua Sandbar willow	Common colonizer of recently deposited gravels and sediments. This species is an effective stabilizer in riparian areas, providing bank stabilization and trash and sediment trapping. It appears to act as a facilitator species for establishment of other riparian vegetation. Loss of this species often results in rapid erosion of the stream channel.	Wildlife and livestock can over-utilize this species. Trampling reduces establishment. Plants are easily established through cuttings, and will spread vigorously via underground runners once established (CE).
RIPARIAN GRAMINOID SPECIES Only the most common and desirable graminoid species are included in this list.		
Carex aquatilis Water sedge	This species requires a constant high water table. It provides excellent stabilization of seepage areas, wet meadows, and stream banks on low gradient streams. The dense sod forms overhanging mats providing valuable fish cover.	Livestock rarely use this species unless the soil surface dries out enough to allow easy footing. During a season-long grazing season, however, livestock will damage plants and compact soils. Loss of this species may result in destabilization of banks and downcutting. Once the water table lowers, this species will no longer occupy the site.
Carex nebrascensis Nebraska sedge	One of the most common of the coarse sedges, requiring less moisture than *C. rostrata* or *C. aquatilis*. The species is highly palatable to cattle, horses, and wildlife. Its thick rhizomes provide excellent bank stabilization and will develop bank overhangs.	This species appears to be able to withstand heavy utilization, but under continuous use during growth will lose vigor (Steele *et. al* 1984). The species is also susceptible to human and ungulate trampling damage early in the season when soils are saturated. This is one of the species that forms hummocks under trampling.
Carex rostrata Beaked sedge	Another very common coarse sedge, occurring on moister sites than *C. nebrascensis*, often in seeps and riparian meadows. Beaked sedge has thick dense rhizomes, thus providing excellent bank and soil stabilization. Overhanging mats, while creating excellent fisheries habitat, are also susceptible to trampling damage and "calving." Since this species forms thick organic layers, it may be important for developing water-holding capacity within the banks.	Trampling damage by humans and ungulates is the most extensive impact. The species is of low palatability, and is generally used only lightly. Beaked sedge plugs have been transplanted successfully (Corral Basin).
Deschampsia cespitosa Tufted hairgrass	This species is common in moist meadows and as a colonizing species on gravel bars. The species may also replace *Carex* as the water table drops, and be replaced by *Poa pratensis* (Kentucky bluegrass) as the water table drops below one meter.	Sustained grazing decreases the vigor of this species (Volland 1985) and it is generally replaced by *Poa pratensis*. Livestock graze this species preferentially (Leege *et. al.*, 1981). Proper use levels are light to moderate. The species has little value for bank stabilization, but, as a colonizing species, will facilitate establishment of more stabilizing species (CE).
Juncus balticus Baltic rush	This species can tolerate a lowered water table and trampling by both livestock and recreationists. Its long tangled roots provide good bank stabilization. The species does not form overhanging banks (CE). It is generally an increaser under moderate livestock use, sometimes replacing *Carex*. Because of low biomass production, it does not develop organic deposits (CE).	While this species will help to stabilize banks, it does not contribute to other riparian vegetation functions such as overhanging banks and shading. It can be found even on deeply incised channels (up to 12 feet above the water table (CE)); thus, the roots can likely grow to remain in contact with water as the water table drops. However, such plants have little vigor and likely little bank stabilization function.

Summary of management and ecological function of desirable riparian species. Information is generally based on Padgett *et. al* (1989), Hansen *et. al* (1988) and Youngblood *et. al* (1985) unless referenced. Statements followed by (CE) are based on observations by the author of this table, Dr. Caryl Elzinga, Salmon District botanist from 1990 to 1993.

Table 3-24: Undesirable Riparian Species[1]

Scientific Name	**Common Name**	**Reason(s) Why an Undesirable Riparian Species**
Agropyron repens	Quackgrass	An undesirable weedy species and aggressive competitor. The rooting system is rhizomatous, but shallow, providing little stabilization.
Agrostis stolonifera	Carpet bentgrass	Similar in form and ecology to Kentucky bluegrass, but not as abundant.
Bromus inermis	Smooth brome	An increaser under heavy grazing.
Centaurea maculosa	Spotted knapweed	A noxious weed that can invade riparian areas.
Cirsium arvense	Canada thistle	A noxious weed that will invade heavily grazed riparian areas.
Dactylis glomerata	Orchardgrass	A beneficial forage species in cultivated riparian areas; however, it does not provide the needed streambank stabilization.
Hordeum jubatum	Foxtail barley	An increaser under heavy grazing; poor stabilization; very low forage value; does not provide needed streambank stabilization.
Iris missouriensis	Rocky Mountain iris	An increaser under heavy grazing; no forage value.
Melilotus alba	Sweetclover	An increaser under grazing, and a colonizer of disturbed sites. These annual species provide very little for riparian stabilization (also *M. officinalis*).
Phleum pratense	Timothy	Another valuable pasture grass that does not provide desired riparian functions in natural systems.
Poa pratensis	Kentucky bluegrass	This rhizomatous low growing species is extremely resistant to grazing and trampling and has been shown to be an increaser under heavy grazing (Costello 1944; Schulz and Leininger 1990). This species is the most common replacer of more desirable riparian vegetation in the RA. Although rhizomatous, the roots are very shallow, thus providing little streambank stabilization. As a sod former, once established the species is quite competitive. While this species is not in itself an indicator of lowering water tables (it can occur in very wet sites), the dominance of this species in a riparian area will destabilize banks and make streams susceptible to downcutting. This species can tolerate a lower water table than more desirable *Carex* species listed in *Table 3-23*.
Taraxacum officinale	Dandelion	An increaser under grazing and an indicator of lowering water tables; does not provide needed streambank stabilization.
Trifolium repens	White clover	Because of its low structure, generally an increaser under grazing; does not provide needed streambank stabilization.

[1] Most of the information in this table is based upon the observations and general knowledge of Dr. Caryl Elzinga, Salmon District botanist from 1990 to 1993.

Special Status Plant Species

Twenty-seven special status plant species are known to occur on Salmon District BLM public lands, and six more species are suspected to occur. The general location of sensitive plant species is shown on *Map 38: Sensitive Plant Species.*

The special status species known or very likely to occur in the RA are described in *Table 3-25: Special Status Plant Species Known or Very Likely to Occur in the Challis Resource Area* and *Table 3-26: Habitat and Location Information for Known Special Status Plant Species.* The two globally rare species (wavy leaf thelypody and alkaline primrose) occur with several sensitive species, suggesting that the habitat itself is rare. The habitat areas associated with these two globally rare species are described more fully in *Appendix I, Item 2: Habitat Areas Associated with the Alkaline Primrose and Wavy Leaf Thelypody,* p. 656.

Inventory of special status and rare plants in the RA is ongoing, and new populations and species continue to be identified. *Table 3-27: Rare and Endemic Plant Species Known or Likely to Occur* lists additional species that may occur within the Challis Resource Area. Some of these species are not listed as sensitive by the BLM, because they are not known to occur on BLM lands. Other species in this table are known to occur in the Lemhi Resource Area of the Salmon District BLM, and may also occur in the Challis RA. Still others are endemic to central Idaho, but are so common that they are not treated as sensitive.

Little is known about the distribution, size, and trend of special status vascular plant species populations in the RA, and no data exist for non-vascular plants (lichens, mosses, fungi, and algae). The uniqueness of vascular flora in the Challis area suggests there may be unique non-vascular flora as well. Two sites in the RA (the Malm Gulch area and the Summit Creek area) are currently designated as Areas of Critical Environmental Concern in order to protect their unique plant values.

Information on the condition of special status plant species in the RA is limited to habitat and population structure information collected with new species locations. This information is insufficient to determine condition. However, no evidence indicates that individual populations are increasing in size. Population sizes may in fact be decreasing due to the effects of surface disturbing activities such as rangeland improvements, mining activity, off-highway vehicle use, and road maintenance. In addition, other uses may be affecting rare and sensitive plants. For example, three years of monitoring the alkaline primrose has shown that livestock reduce the annual seed production of the primrose when they consume flower stalks. However, a four-year demographic study indicated that alkaline primrose may benefit in other ways from some grazing. Three other sensitive species (*Astragalus leptaleus, Elaegnus commutata,* and *Salix candida*) occur in riparian areas and may be affected by the concentration of livestock in these areas.

Use of the special status plant species known or suspected to occur in the Challis RA is presently limited to scientific and recreational observation. No known commercial uses for these species exist at this time. (**Note:** The cushion cactus is on the sensitive plant list to protect this species from commercial collecting.)

Table 3-25: Special Status Plant Species Known or Very Likely to Occur in the Challis Resource Area

Species status given by: BLM (1996 list), Forest Service (1994 Region 4 list), Idaho Native Plant Society (Idaho Native Plant Society 1998), Idaho Conservation Data Center (12/96 list). Status codes: T=Threatened, S=Sensitive, SS=State Sensitive, S1=State Priority 1, SC=Species of Concern (see *Glossary*: sensitive species, threatened species). Distribution codes: P-peripheral, D-disjunct, CI-Central Idaho endemic, CE-Challis endemic, L-limited in distribution, but not truly disjunct or peripheral. Additional Idaho Native Plant Society (INPS) status codes are defined as a footnote to this table.

Scientific Name	Family	Common Name	BLM	FS-R4	INPS[1]	Fed.	Distr.
Astragalus amblytropis	Fabaceae	Challis milkvetch	S		G3, 11		CE
Astragalus amnis-amissi	Fabaceae	Lost River milkvetch		S	G3, 11		CI
Astragalus aquilonius	Fabaceae	Lemhi milkvetch		S	G3, 5		CI
Astragalus diversifolius	Fabaceae	Meadow milkvetch	S	S			L
Astragalus leptaleus	Fabaceae	Park milkvetch	S				L
Astragalus paysonii	Fabaceae	Payson's milkvetch	S			SC	CI
Astragalus vexilliflexus var. nubilus	Fabaceae	White Clouds milkvetch		S	G4/T2,12	SC	L
Bouteloua gracilis	Gramineae	Blue gramma	S		S1		D
Chrysothamnus parryi var. montanus	Asteraceae	Centennial rabbitbrush	S			SC	L
Coryphantha vivipara	Cactaceae	Cushion cactus	S				L
Cymopterus douglassii	Umbelliferae	Douglass' waveswing		S	G3, 11	SC	CI
Cymopterus ibapensis	Umbelliferae	Ibapah waveswing	S		SS		CI
Draba incerta	Cruciferae	Silvery draba	S		SS		CI
Draba trichocarpa	Cruciferae	Stanley whitlow-grass		S	G2, 11		CE
Eatonella nivea	Asteraceae	White eatonella	S		SS		D
Elaegnus commutata	Elaeagnaceae	American silverberry	S				P
Epipactis gigantea	Orchidaceae	Giant helleborine	S		S1		L
Erigeron salmonensis	Asteraceae	Salmon River fleabane				SC	CI
Eriogonum capitatum var. welshii	Polygonaceae	Welsh's buckwheat	S	S	G4/T2, 9		L
Eriogonum meledonum	Polygonaceae	Guardian buckwheat		S	G1, 11		CE
Haplopappus insecticruris	Asteraceae	Bugleg goldenweed	S			SC	L
Lomatogonium rotatum	Gentianaceae	Marsh felwort	S		S1		D
Oxytropis besseyi var. salmonensis	Fabaceae	Challis crazyweed	S	S	G5/T3,12		CE
Penstemon lemhiensis	Scrophulariaceae	Lemhi penstemon	S	S		SC	CI

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Scientific Name	Family	Common Name	BLM	FS-R4	INPS[1]	Fed.	Distr.
Physaria didymocarpa var. lyatra	Brassicaceae	Salmon twin bladderpod	S			SC	CI
Poa abbreviata var. *marshii*	Gramineae	Marsh's bluegrass		S	G5/T2,12		
Primula alcalina	Primulaceae	Alkali primrose	S		G1, 8	SC	CI
Salix candida	Salicaceae	Hoary willow	S		SS		P
Spiranthes diluvialis	Orchidaceae	Ute Ladies'-tresses				T	L
Sullivantia hapemanii var. *hapemanii*	Saxifragaceae	Hapeman's sullivantia				SC	CI
Thelypodium repandum	Cruciferae	Wavy leaf thelypody	S	S	G3, 11	SC	CE
Thlaspi idahoense var. aileeniae	Brassicaceae	Stanley thlaspi		S	G4/T3,12		CI
Xanthoparmelia idahoensis	Parmeliaceae	Idaho range lichen	S		G2, 8		CI

[1]GLOBALLY RARE SPECIES

Globally Rare species are assigned to one of four categories: Globally Extinct (GX), Global Priority 1 (G1), Global Priority 2 (G2), or Global Priority 3 (G3). Global ranks are defined below. In addition, each globally rare species that is not currently listed as Endangered or Threatened under the Endangered Species Act receives a Threat Priority rank. This one-through-twelve rank is based on the old USFWS Listing Priority criteria and is explained below. The INPS will continue to recommend species for the federal Candidate list, and also for Conservation Agreements, as part of the Idaho Conservation Effort.

Global Rank:

G = Global rank indicator; denotes rank based on rangewide status.
T = Trinomial rank indicator; denotes rangewide status of variety or subspecies.
X = Considered extinct throughout its range.

1 = Critically imperiled because of extreme rarity or because of some factor of its biology making it especially vulnerable to extinction (typically 5 or fewer occurrences.
2 = Imperiled because of rarity or because of other factors demonstrably making it very vulnerable to extinction (typically 6 to 20 occurrences).
3 = Rare or uncommon, but not imperiled (typically 21 to 100 occurrences).
4 = Not rare and apparently secure, but with cause for long-term concern (usually more than 100 occurrences).
5 = Demonstrably widespread, abundant, and secure.

Threat Priority:

Priority	Taxonomy	Threat	
		Magnitude	Immediacy
1	Monotypic genus	High	Imminent
2	Species		
3	Subspecies/Variety		
4	Monotypic genus		Non-imminent
5	Species		
6	Subspecies/Variety		
7	Monotypic genus	Low	Imminent
8	Species		
9	Subspecies/Variety		
10	Monotypic genus		Non-imminent
11	Species		
12	Subspecies/Variety		

Idaho Native Plant Society, 1998.

Table 3-26: Habitat and Location Information for Known Special Status Plant Species

Scientific Name	Location	Habitat	Soils	Community
Astragalus amblytropis	Salmon River from the East Fork to Ellis, and the East Fork Salmon River, especially Road Cr., Herd Cr., and Spar Canyon.	Steep erosive slopes, little vegetated, south facing, dry.	Challis volcanic weatherings including rhyolitic and andesitic weatherings.	*A. confertifolia, O. hymenoides, A. tridentata wyomingensis, C. nauseosus., E. nudicaulis, S. hystrix.*
Astragalus amnis-amissi	Near Mackay, Idaho in canyons of the Lost River Range.	Steep canyons, in moist cracks and ledges.	Limestone, calcareous.	
Astragalus aquilonius	Round Valley and Bradshaw Flat, as well as associated with *T. repandum*. Also at southern end of the Lembi and Lost River Ranges.	Most abundant on the gentle slopes near Challis, Idaho but also on steep erosive slopes and in washes; generally south facing, dry.	Challis volcanic weatherings, limestone gravelly slopes and shallow sandy loams.	*A. tridentata wyomingensis, P. secunda, S. hystrix, C. viscidiflorus, A. confertifolia, A. spicatum, E. ambiguus salmonis.*
Astragalus diversifolius	Thousand Springs wetland	Alkaline wet meadows	Soils often alkaline with obvious whitish deposits.	*Salix spp., Carex spp.*
Astragalus leptaleus	Most populations known from along the Big Lost River above the confluence with Thousand Springs Cr. Also along Road Creek and tributaries.	Riparian, at the edge of the riparian area or beneath shrubs, usually where moist, but not saturated.	Various. Soils often alkaline with obvious whitish deposits.	*S. geyeriana, S. boothii, P. pratensis, D. deflexa, D. cespitosa, A. eucosmus, A. alpinus, S. debilis, J. balticus, Sisyrinchium idahoense.*
Astragalus vexilliflexus var. nubilus	White Cloud Mountains, Thompson Creek area.	Subalpine/alpine.	Weatherings of Challis volcanics.	*A. tridentata vaseyana, F. idahoensis.*
Coryphantha missouriensis *Coryphantha vivipara*	These species are fairly common throughout the RA.	Generally in dry sage/grass habitats on gentle slopes.	Sandy loam to loam.	*A. tridentata wyomingensis, P. secunda, A. arbuscula, S. hystrix, A. spicatum.*
Cymopterus douglasii	Lost River Range.	Alpine and subalpine meadows above 9,500 feet elevation.	Calcareous or dolomitic substrates.	*Forb and grass types.*
Cymopterus ibapensis	Mouth of Railroad Canyon (Lembi County).	Gravelly slopes, valley bottom to timberline.	Limestone.	*A. tridentata wyomingensis, A. arbuscula nova, P. sandbergii.*
Draba incerta	One BLM location is known near Jerry Peak within the Lake Creek ACEC.	Northwest facing, 50% slope.	Moderately deep gravelly moist soil derived from Challis volcanics.	*Phlox pulvinata, Cymopteris bipinnatus, Sedum lanceolatum, Potentialla diversifolia.*
Draba trichocarpa	Stanley Basin.	Windswept lithic knobs and ridges.	Decomposed granitics.	*A. tridentata vaseyana.*
Eatonella nivia	One location known within the Malm Gulch ACEC. The species is disjunct from the Great Basin.	Mid-elevation desert.	Sandy to gravelly thin soil, often on basalt.	*A. tridentata wyomingensis.*
Elaegnus commutata	Small population occurs along the Salmon River within the Bayhorse Campground.	Riparian, edge riparian.	Floodplain alluvium.	*Salix geyeriana, Salix exigua, Populus tremuloides.*
Epipactis gigantea	Elk Bend, hot springs	Springside, thermal springs.	Limestone weatherings.	*Carex, Juncus.*

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Scientific Name	**Location**	**Habitat**	**Soils**	**Community**
Eriogonum capitatum var. *welshii*	Antelope Flat, east of Mackay, ID.	Alluvial fans of Big Lost River Range.	Calcareous gravels.	*A. arbuscula nova*
Eriogonum maledonum	Sawtooth National Recreation Area.	Unstable scree slopes.	Granitics.	*A. tridentata vaseyana*
Gymnosteris parvula	No populations are known, but a record is suspected near Friday Spring in Round Valley.	Sandy-loam flats.	Sandy.	*A. tridentata tridentata*
Lomatogonium rotatum	Summit Creek ACEC, Thousand Springs wetland.	Spring-fed calcareous headwaters system.	Highly alkaline clay.	*Salix boothii, B. occidentalis, P. pratensis, J. balticus, C. microptera, Sysirinchium idahoense, Phlox kelsyi.*
Oxytropis besseyi var. *salmonensis*	A Challis endemic, this species is relatively common in the Challis, Idaho area, along the East Fork Salmon River, and along the Salmon River to Ellis, Idaho.	Steep (30%) to more gentle slopes, generally south facing, or in washes. Usually dry, sparsely vegetated, open communities.	Sandy to gravelly erosive substrates derived from Challis volcanics.	*O. hymenoides, A. spicatum, A. tridentata wyomingensis, A. confertifolia, P. secunda, S. hystrix, E. nudicaulis, E. ambiguus salmonis.*
Primula alcalina	Summit Creek ACEC.	Spring-fed calcareous headwater wetland systems.	Highly alkaline clay.	*Salix boothii, B. occidentalis, P. pratensis, J. balticus, C. microptera, Sysirinchium idahoense, Phlox kelsyi.*
Salix candida	Summit Creek ACEC.	Spring-fed calcareous headwater wetland systems.	Highly alkaline clay.	*Salix boothii, B. occidentalis, P. pratensis, J. balticus, C. microptera, Sysirinchium idahoense, Phlox kelsyi.*
Stipa pinetorum	The species is known from Custer and Clark counties, generally at higher elevations than BLM lands.	Dry rocky areas, from sagebrush to higher elevations.	No information.	No information.
Thelypodium repandum	Salmon River from the East Fork Salmon River to Ellis, Idaho, and the East Fork Salmon River, especially Road Cr., Herd Cr. and Spar Canyon.	Steep erosive slopes, little vegetated, south facing, dry.	Challis volcanic weatherings, including rhyolitic and andesitic weatherings.	*A. confertifolia, O. hymenoides, A. tridentata wyomingensis, C. nauseosus., E. nudicaulis, S. hystrix.*
Xanthoparmelia idahoensis	No populations known in Custer County; only known populations occur in Lemhi County, near the town of Salmon.	Bare bentonite outcrops.	Lacustrine ash deposits.	Occurs on bare slopes. Surrounding area: *Atriplex confertifolia, Sarcobatus vermiculatus.*

Table 3-27: Rare and Endemic Plant Species Known or Likely to Occur in the Challis Resource Area, by Distribution

NOTE: Species known only from the Challis area are identified with an asterisk. Other species are endemic to central Idaho, but do not have as restricted a distribution as the Challis endemics. Species that are also considered sensitive are listed in *Table 3-25: Special Status Plant Species Known or Very Likely to Occur in the Challis Resource Area.*

Scientific Name	Common Name	BLM[1]	Distribution[2]
Allium simillimum	Dwarf onion	Y	CI
Astragalus adanus	Boise milkvetch	Y	P
Astragalus platytropis	Broad-keeled milkvetch	Y	L
Carex eurycarpa	Wide-fruited sedge	L	D
Castilleja crista-galli	Cockscomb paintbrush	M	P
Castilleja longispica	Yellow paintbrush	L	L
Chaenactis evermannii	Evermann's fleabane	Y	I
Chrysothamnus parryi salmonensis	Salmon River rabbitbrush	Y	CE
*Cryptantha salmonensis**	Salmon River cryptantha	Y	CE
Cryptantha scoparia	Desert cryptantha	Y	P
Draba hitchcockii sp. nov	Hitchcock's draba	M	CI
Draba oreibata	Limestone draba	Y	D
Elymus ambiguus var. *salmonis*	Salmon River wild rye	Y	CI
Encelopsis nudicaulis	Naked sunray	Y	D
Eriastrum sparsiflorum wilcoxii	Eriastrum	Y	D
Erigeron asperugineus	Rough fleabane	Y	L
Frasera montana	White frasera	Y	CI
Gilia leptomeria	Great Basin gilia	Y	P
Gilia spicata	Spicate gilia	Y	P
Haplopappus greenei	Greene's haplopappus	L	D
*Hymenopappus filiformis idahoensis**	Hymenopappus	Y	CE
Kelseya uniflora	Kelseya	L	L

Scientific Name	Common Name	BLM[1]	Distribution[2]
Langloisia setosissima	Langloisia	M	D
Lesquerella carinata	Keeled bladderpod	Y	CI
Lithophragma tenella thompsonii	Slender fringecup	Y	K
Lomatium idahoense	Idaho biscuitroot	L	CI
Penstemon payettensis	Payette penstemon	L	P
Phacelia idahoensis	Idaho phacelia	M	CI
Phacelia incana	Hoary phacelia	M	P
Phlox albomarginata	White margined phlox	Y	CI
Phlox austromontana	Desert phlox	L	L
Physaria geyeri var. purpurea	Geyer's twinpod	Y	CI
Ribes hendersonii	Henderson's gooseberry	Y	CI
Syntheris pinnatifida canescens	Cutleaf synthyris	L	L

[1] BLM = potential for occurrence on BLM public lands (Y = yes, L = likely, M = maybe).

[2] Distribution: D = disjunct, P = peripheral, L = limited, CI = central Idaho, CE = Challis endemic.

Noxious Weeds

Table 3-29: Noxious Weed List for the State of Idaho (see page 145) lists all weeds identified as noxious under the Idaho State Weed Law (Chapter 34, Idaho Code) (noxious weed species known to occur in the Challis Resource Area are highlighted, and species likely to spread to the RA during the life of the RMP (approximately 20 years) are marked with an asterisk). Other weedy and poisonous species which present management challenges in the RA but are not on the Idaho Noxious Weed List are presented in *Table 3-28: Undesirable Species Known to Occur in the Challis Resource Area*. These species are not included on the State list for various reasons, such as they are (a) too widespread to mandate treatment, (b) not a significant agricultural threat, or (c) troublesome, but not noxious. One undesirable species of concern is cheatgrass (*Bromus tectorum*). This annual grass was introduced into the Great Basin region from Europe, probably in the late 1880s. It has spread throughout the region to the point where it currently exists in every county in the Great Basin (Karl *et. al.* 1995, quoted in Quigley and Arbelbide 1997). An excellent description of the cheatgrass problem, including ecology, thresholds, and control, is contained in *An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins* (Quigley and Arbelbide, tech. eds. 1997). *Map 28: Known Noxious Weed Infestations* illustrates the general locations of weed infestations. In general, road corridors are the main areas of infestation, but some populations have been located

well away from roads.

Weed infestations can occur or spread when weed seeds are spread by human activities such as road maintenance, carried by livestock or wildlife, or dispersed by water or wind. In addition, ground disturbing activities provide open sites for weeds to invade.

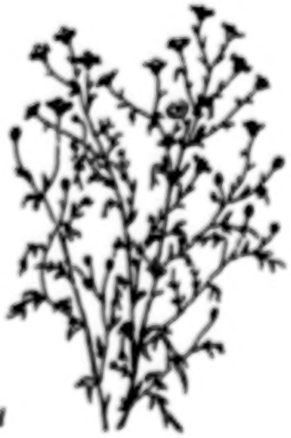
Noxious weed control efforts are done under contract with Custer and Lemhi counties. The BLM identifies the need for noxious weed control in particular areas and prepares an annual Pesticide Use Proposal and Environmental Assessment. Meetings are held with the County Weed Supervisor to plan treatment areas and strategies each year. The counties perform much of the actual weed control, with BLM oversight. Most noxious weed control has consisted of spraying leafy spurge and spotted knapweed with herbicides, normally 2,4-D or Picloram. Other noxious weed species treated include henbane, Dyer's Woad, toadflax, and several types of thistle. Other treatment methods used include mechanical treatments (pulling) in sensitive areas (such as areas adjacent to streams) and biological control methods, such as the use of naturally occurring insects or diseases that attack the specific noxious weed. Most of the noxious weeds present within the Challis Resource Area are introduced plants from other parts of the world, such as eastern Europe or Eurasia. They become noxious because their naturally occurring diseases and/or insects that would normally keep them under control have not been introduced along with the plant. Biological control methods seek to control introduced noxious plants by reintroducing the naturally occurring control agents (diseases or insects) that occurred in the area where the plant originated.

Poisonous plants, while posing a threat to livestock, are generally not designated as noxious weeds by the State. These plants are native, usually perennial, and would not be possible to control. The most significant poisonous plants found in the Challis Resource Area include larkspur (*Delphinium occidentale*), halogeton (*Halogeton glomeratus*), and death camas (*Zygadenus venenosus*). These plants could be treated under *Vegetation Treatment on BLM Lands in the Thirteen Western States - FEIS* (BLM 1991).

Table 3-28: Undesirable Species Known to Occur in the Challis Resource Area

Tumble pigweed	*Amaranthus albus*
Quackgrass	*Agropyron repens*
Cheatgrass	*Bromus tectorum*
Blue mustard	*Chorispora tenella*
Meadow thistle	*Cirsium scariosum*
Bull thistle	*Cirsium vulgare*
Tall larkspur	*Delphinium occidentale*
Flixweed	*Descurainia sophia*
Curly cup gumweed	*Grindelia squarrosa*
Broom snakeweed	*Gutierrezia sarothrae*
Halogeton	*Halogeton glomeratus*
Foxtail barley	*Hordeum jubatum*
Kochia	*Kochia scoparia*
Prickly lettuce	*Lactuca serriola*
Russian thistle	*Salsola iberica*
Tumble mustard	*Sisymbrium altissimum*
Medusahead*	*Taeniatherum caput-medusae*
Common tansy	*Tanacetum vulgare*
Field pennycress	*Thlaspi arvense*
Seaside arrowgrass	*Triglochin maritima*
Common mullein	*Verbascum thapsus*
Meadow deathcamas	*Zygadenus venenosus*

*Species likely to infest during the life of the RMP (about 20 years).



Spotted knapweed

Leafy spurge

Table 3-29: Noxious Weed List for the State of Idaho

Jointed goatgrass	*Aegilops cylindrica*
Skeletonleaf bursage*	*Ambrosia tomentosa*
Hoary cress (or Whitetop)	*Cardaria draba*
Musk (or nodding) thistle	*Carduus nutans*
Diffuse knapweed	*Centaurea diffusa*
Spotted knapweed	*Centaurea maculosa*
Meadow knapweed	*Centaurea pratense*
Russian knapweed	*Centaurea repens*
Yellow starthistle*	*Centaurea solstitialis*
Rush skeletonweed	*Chondrilla juncea*
Canada thistle	*Cirsium arvense*
Poison hemlock	*Conium maculatum*
Field bindweed	*Convolvulus arvensis*
Common crupina	*Crupina vulgaris*
Scotch broom	*Cytisus scoparius*
Toothed spurge	*Euphorbia dentata*
Leafy spurge	*Euphorbia esula*
Orange hawkweed	*Hieracium aurantiacum*
Yellow (or meadow) hawkweed	*Hieracium pretense*
Black henbane	*Hyoscyamus niger*
Dyer's woad	*Isatis tinctoria*
Perennial pepperweed*	*Lepidium latifolium*
Dalmation toadflax	*Linaria dalmatica*
Yellow toadflax	*Linaria vulgaris*
Purple loosestrife*	*Lythrum salicaria*
Milium	*Milium vernale*
Matgrass	*Nardus stricta*
Scotch thistle	*Onopordon acanthium*
Tansy ragwort	*Senecio jacobaea*
Silver-leaf nightshade	*Solanum elaeagnifolium*
Buffalo bur	*Solanum rostratum*
Perennial sowthistle	*Sonchus arvensis*
Johnsongrass	*Sorghum halepense*
Puncture vine*	*Tribulus terrestris*
Syrian beancaper	*Zygophyllum fabago*

Note: Noxious weed species known to occur in the Challis Resource Area are highlighted in bold type.

*Species likely to infest during the life of the Challis RMP (about 20 years).

Sources: Idaho Department of Agriculture, October 1997 list of species present in the Challis RA; *and* Callihan, Robert H. and Timothy W. Miller. 1997. A Pictorial Guide to Idaho's Noxious Weeds. Noxious Weed Advisory Council, Idaho Department of Agriculture, Boise.

Visual Resource Management.

Law, Regulation, and Policy

Major legal authorities for the visual resource program are found in the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*) and the National Environmental Policy Act of 1969 (43 U.S.C. 4321 *et seq.*).

Affected Environment

The visual resources of the Challis Resource Area were inventoried and classified in accordance with procedures similar to those outlined in the BLM Handbook 8410-1 during preparation of the *Challis Management Framework Plan* (MFP) (1979), the *Ellis-Pahsimeroi MFP* (1982), and the *Mackay MFP* (1983, as amended). The classification process considered scenic quality and visual and public sensitivity. More specifically, class designations were derived from an overlay technique which combined the maps of scenic quality, sensitivity levels, and distance zones. Overlays helped identify areas with similar combinations of factors. These areas were assigned one of five visual management classes according to predetermined criteria listed in *Visual Resource Management Program* (BLM 1980). Management classes describe the different degrees of modification allowed on basic elements of the landscape (see *Glossary*: visual resource management classes). Generally, the lower the class number, the more sensitive the area is to visual intrusions.

Table 3-30 and *Map 3-4: Existing Visual Resource Management* show the acreage of the Challis RA currently within each Visual Resource Management (VRM) class.

Table 3-30: Acreage for VRM Classes in the Challis RA*

VRM Class	Acreage	% of RA
I (Preservation)	191,521	24.2
II (Retention)	97,376	12.3
III (Partial Retention)	170,746	21.5
IV (Modification)	332,924	42.0
V (Rehabilitation or Enhancement)	0	0.0

*Acres are approximations from the Challis, Ellis-Pahsimeroi, and Mackay Management Framework Plans, and therefore do not equal the total acreage for the Challis RA (792,567 acres).

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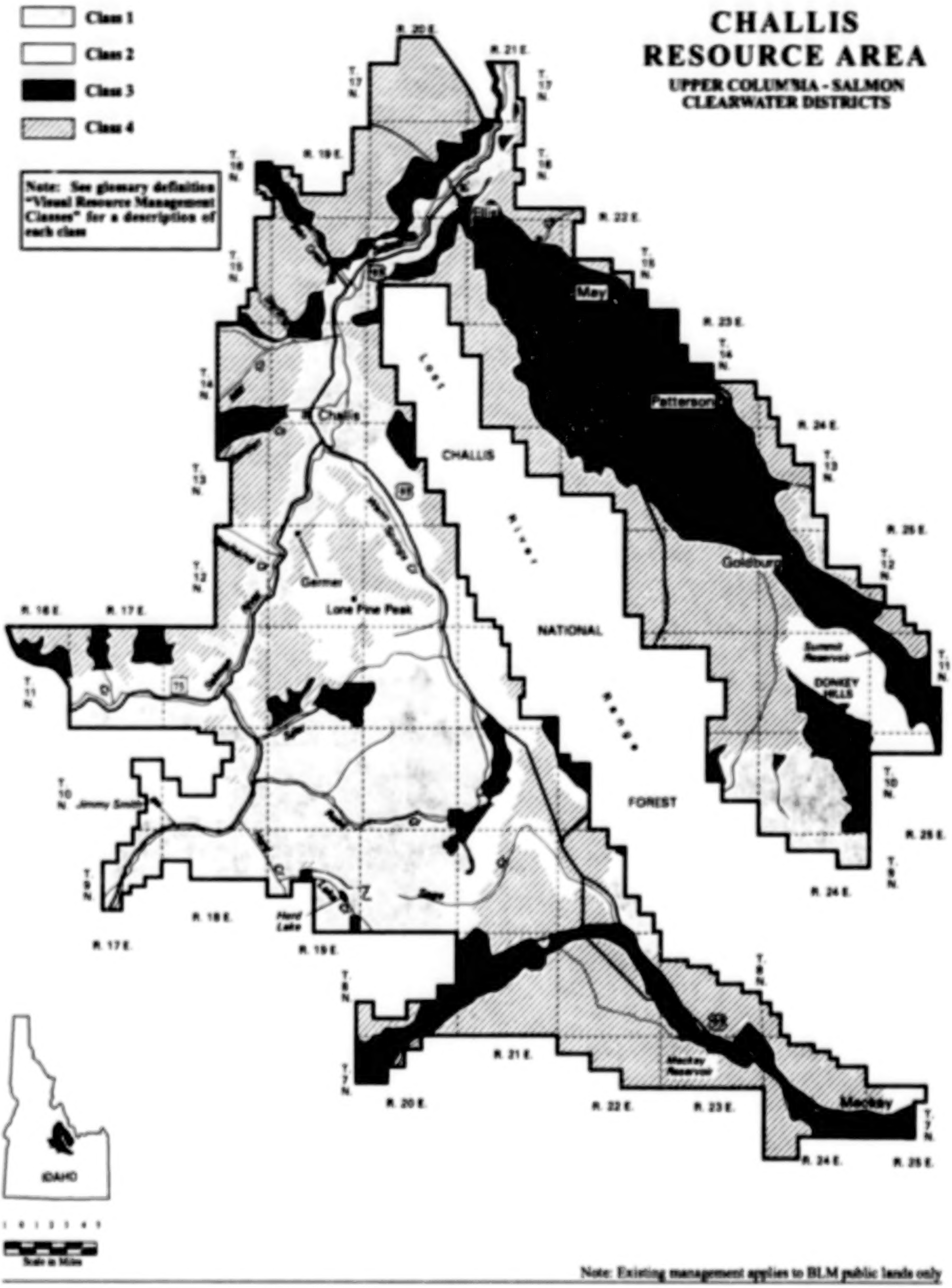
EXISTING VISUAL RESOURCE MANAGEMENT

Map 3-4



Note: Existing management applies to BLM public lands only

Challis Proposed RMP/Final EIS

BLM, Idaho State Office, Mapping/GIS, 1998

Class I VRM rating is reserved for designated areas, such as WSAs and Wild and Scenic Rivers, where preservation of the landscape is the primary management goal. Class II VRM rating is used for areas where the visual environment is the same high quality as designated areas, but the area has no Congressional designation. This classification could include areas such as ACECs and SRMAs. Class III VRM rating is reserved for areas where development is evident, but does not dominate the viewshed (generally highway corridors and rural areas where the scenery is not a major resource concern). Class IV VRM rating is generally reserved for areas where the visual intrusions dominate the viewshed, but are in character with the landscape (areas such as rural communities, multiple subdivisions, mining developments, etc.). A Class V VRM rating is reserved for areas where the natural character of the landscape has been disturbed to a point where rehabilitation is needed to bring it up to one of the other four classes. It is often used as an interim classification until objectives of another class can be reached. This classification is often used for dumpsites, minesites, or the like.

The visual quality of the Challis RA is very high, due to inherent characteristics of the area's landforms, vegetation, and land use patterns and because there are few visual intrusions. Resource uses which lower the visual quality of the RA include powerlines, gravel pits, unauthorized dumps, casual OHV use (roadways and hillclimbs), and heavy livestock use. In most cases, proposed projects are analyzed for visual intrusions that could occur; when practical, mitigation measures are developed in order to decrease the impacts on visual resources. However, it is rare for visual concerns to halt a project.

The outstanding visual resources of the Challis RA include the following two areas.

> **Upper Salmon River Special Recreation Management Area** - This SRMA contains a very rugged riverine canyon of the main Salmon River which is generally followed by Highways 75 and 93. The scenic view of this area has been recognized locally, regionally, and nationally, being listed as "eligible" for study as a potential addition to the National Wild and Scenic Rivers system (National Park Service 1982). The two highways that follow the main Salmon River canyon have a Scenic Byway designation. Currently, the entire SRMA is VRM Class I.
>
> **East Fork Salmon River** - A tributary to the main Salmon River, this riverine valley winds its way through hayfields and steep canyons. There are portions of three Wilderness Study Areas (WSAs) within the river corridor: Jerry Peak West, Corral-Horse Basin, and Boulder Creek. No portions of these WSAs have been recommended suitable for wilderness designation. This river has also been listed as "eligible" for study as a potential addition to the National Wild and Scenic Rivers system (National Park Service 1982). The East Fork Salmon River has recently been identified by the BLM as a Wildlife Viewing Route. Currently, the river canyon has a VRM Class I designation.

The demand for high quality visual experiences in the RA is growing. Recreational use of the RA is increasing, and many visitors are drawn to the RA especially for the "scenery." The supply of outstanding scenery is moderate to high, especially when viewsheds are combined with National Forest system lands. According to several sources, recreation/tourism activities which depend on high quality visual resources are a major component of the local, regional, and Statewide economy. The *1987 Idaho Leisure Travel and Recreation Survey* revealed that 53% of all visitors to Idaho have come for recreational purposes. This recreation use is often dependent on the visual resource. According to *Outdoor Recreation in a Nation of Communities* (Task Force on Outdoor Recreation Resources 1988: 62), the most popular land-based recreation activities of Americans are sightseeing (46.9%), picnicking (46.2%), walking for pleasure (41.3%), and driving for pleasure (in order to enjoy scenery) (38.4%). An Idaho Department of Commerce study (1990) found that 40 to 50% of all tourist visitations were for sightseeing.

Water Resources.

Law, Regulation, and Policy

Hydrology and Watershed Management: Hydrology and watershed management within BLM public lands is authorized under many laws and executive orders, including the major authorities listed below. Many of these authorities are described further in *Appendix E, Item 1*, pp. 638-643.

1) Taylor Grazing Act of 1934, as amended (43 U.S.C. 315).
2) Soil Conservation and Domestic Allotment Act of 1935, as amended (16 U.S.C. 590).
3) Appropriations Act of 1952, McCarran Amendment (43 U.S.C. 666).
4) Watershed Protection and Flood Control Act of 1954, as amended (16 U.S.C. 1001 *et seq.*).
5) Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*).
6) Clean Water Act of 1977 (33 U.S.C. 404).
7) Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 *et seq.*).
8) Classification and Multiple Use Act (43 U.S.C. 1411-18).
9) Executive Order (Public Water Reserve No. 107) of April 17, 1926, which withdrew and reserved important springs and waterholes on public lands.
10) Executive Order 11738 of September 10, 1973, which directs each Federal agency to enforce the Clean Air Act and Clean Water Act in the procurement of goods, materials, and services.
11) Executive Order 11752 of December 17, 1973, which mandates that Federal agencies provide national leadership to protect and enhance the quality of air, water, and land resources through compliance with applicable Federal, state, and local pollution standards.
12) Executive Order 11988 (amended by Executive Order 12148) of May 24, 1977.
13) Executive Order 11990 of May 24, 1977.
14) Executive Order 12088 of 1978 (Federal Compliance with Pollution Control Standards) requires Federal compliance with pollution control laws.

Water Quality: The Clean Water Act of 1977, as amended in 1987, provides for the protection, restoration, or improvement of water quality, enables states to establish programs for regulating and managing nonpoint source pollution, and directs Federal agencies to comply with state water quality laws. Various executive orders and Department of Interior and BLM manuals also direct the BLM to maintain and improve water quality. The Idaho Department of Health and Welfare Division of Environmental Quality (DEQ) has responsibility for ensuring water quality within Idaho. Specific water quality standards for each beneficial use are identified in the Idaho code.

Affected Environment

Hydrology and Watershed

The Challis Resource Area is within the Columbia River hydrologic region and the lower Snake River sub-region. The principal drainage of the RA is the Salmon River and its tributaries; the East Fork Salmon River and Pahsimeroi River are major drainages contributing to the Salmon River. The RA also includes a large part of the Big Lost River Basin and a small portion within the Little Lost River Basin (see *Map 25: Geography and Principal Drainage Basins*).

The Salmon River flows for 43.3 miles through the RA, with an average bed gradient of about 2.1%. The East Fork Salmon River flows for about 23 miles from the Forest Service/BLM boundary to its confluence with the main Salmon River. Within this area the East Fork Salmon River has an average gradient of about 1% and an average channel width of 40 to 60 feet. The major tributaries to the East Fork Salmon River are relatively small (7 to 19 feet) with steep gradients (4 to 5%). These steep tributaries are best characterized as boulder/cobble plunge pool type systems; pool:riffle ratios generally fall between 20:80 to 30:70, and average depths range from 9 to 14 inches. (EastFork West Biological Evaluation, January 1993) The Pahsimeroi River flows into the Salmon River at Ellis, Idaho and flows through the Pahsimeroi Valley for about 40 miles, with a bed gradient of 1.45%. Much of the Pahsimeroi River is intermittent, especially at the upper reaches. The Big Lost River flows for about 38 miles from the Forest Service/BLM boundary to the point below Mackay Reservoir, where it leaves the Challis Resource Area - BLM to enter the Big Butte Resource Area - BLM. The bed gradient for the Big Lost River averages 4%. Contributing creeks to these principal rivers generally have much higher gradients.

Peak flows within drainages of the RA typically occur between April 15 and July 15 as a result of snowmelt. Spring runoff is usually 20 to 50 times base flow. Spring flows generally vary on a diurnal basis in response to freeze-thaw conditions occurring each day. Base flows throughout the remainder of the year are maintained by ground water and spring discharges. Overland flow runoff from precipitation is generally insufficient to sustain flows for an extended period of time. High intensity and widely dispersed summer convective thunderstorms can produce high discharges for a short duration.

Watershed erosion susceptibility was evaluated in 1977 using a terrain analysis procedure which considered physical features such as slope gradient, soil type, precipitation factors, and geology. The following table summarizes the portion of the Challis Resource Area in each class (Challis MFP 1979; Ellis-Pahsimeroi MFP 1982; and Mackay MFP 1983).

Table 3-31: Watershed Erosion Susceptibility; % of Challis RA by Susceptibility Class

Low to Slight	32%
Moderate	40%
High	21%
Severe	7%

A riparian inventory was conducted under contract from 1994-1995 throughout the Resource Area. A total of 84.1 miles were inventoried in 1994 within the main Salmon River and the East Fork Salmon River watersheds, and 43.9 miles were inventoried in 1995 within the Pahsimeroi River watershed. The RA contains approximately 340.1 miles of riverine riparian area. Information from this inventory and observational information about other riparian areas in the RA indicate that the overall riparian condition can be summarized as follows (see PRMP, *Attachment 1: Riparian-Wetland Area Function Classification*, pp. 101-102):

Riparian Area Function Classification	miles	percent
Proper Functioning Condition	121.8	35.8
Functional-at-risk: upward trend	40.5	11.9
Functional-at-risk: trend not apparent	132.2	38.9
Functional-at-risk: downward trend	16.7	4.9
Non-functional	28.9	8.5
Totals	340.1	100.0

Ground Water Quantity and Quality

The occurrence and distribution of ground water in the Challis Resource Area is determined by area geology. Primary sources of regional ground water include infiltration, stream channel losses, and water in fractures and faults of bedrock formations. The principal water-bearing deposits include alluvium and colluvium composed of glacial outwash deposits. Challis volcanics underlie most of the RA. Little is known about the water-bearing characteristics of Challis volcanics, except that water is commonly transported through joints, fractures, and faults. Wells in these formations are generally lower-yielding and deeper than those in alluvial deposits. Limestone and dolomite carbonates underlie parts of the Lost River Range and tend to conduct water in large fracture zones or caverns.

The flow of perennial and intermittent springs and streams is sustained by shallow ground water flow on a significant portion of rangelands (particularly high elevation lands). Ground water in alluvial valleys throughout the RA is closely linked to surface flows in stream and river channels. Alluvial materials in much of the RA are coarse, relatively free of silt and clays, and very permeable. As a result, streams tend to lose water very rapidly after they leave the upper basins and begin flowing across the alluvium. The seepage losses are very significant and affect surface waters in the Big Lost River, Little Lost River, and Pahsimeroi River basins. Seepage losses are not confined to the stream channels; they can be significant wherever water is diverted into ditches and onto irrigated fields as well. Conversely, during high flow events, surface water discharges increase dramatically when the alluvial storage capacities are exceeded. Channel and sheet flow erosion on alluvial fans can be significant as a result of rising water tables or saturated surface soils.

Spring and ground waters are generally classified as bicarbonate types. Most of the wells and spring waters sampled have been of good to excellent quality and suitable for all uses. Ground water in the RA is generally believed to be of adequate quantity and good to excellent quality -

suitable for the purposes intended on a Resource Area-wide basis.

Surface Water Quantity and Quality

The Challis Resource Area contains about 340.1 miles of streams and two small natural lakes (Red Lake, comprising less than five acres, and Herd Lake, covering about 25 acres). Reservoirs in the RA include Mackay Reservoir, just northwest of the town of Mackay, Idaho in the Big Lost River drainage, and Summit Reservoir in the Little Lost River drainage. Reservoir storage capacity in Mackay reservoir is up to 44,370 acre-feet. Average annual discharge estimates from the three principal watersheds in the RA are 1,430,000 acre-feet per year from the Salmon River (which includes the East Fork Salmon River and Pahsimeroi River drainages), 235,500 acre-feet per year from the Big Lost River, and 49,300 acre-feet per year from the Little Lost River.

Within the Challis Resource Area, approximately 2,300 on-site and developed claims are being filed by the BLM through the State of Idaho water rights adjudication process. Most of these claims are less than .02 cubic feet per second (cfs). These claims are being pursued in order to protect water-dependent uses on public lands. To date, the following streams have been identified for minimum instream flow claims: the Salmon River at Challis and Salmon, Idaho, the Pahsimeroi River, Hat Creek, the East Fork Salmon River, Squaw Creek, and Herd Creek. Other priority streams will be identified and processed for minimum instream flow claims in the future.

Surface waters originating on public lands are used for water-based recreation activities, domestic and agricultural water supplies, and maintenance of cold water fisheries and habitat. The City of Challis uses Garden Creek for its municipal supply. Municipal treatment facilities within the City of Challis have generally been adequate to accommodate any water quality problems within Garden Creek. Most other domestic water sources are from ground water on private land.

Surface water quality varies throughout the RA and is dependent on land use, local geology, and discharge. Extensive efforts to study and collect water and watershed data last occurred in the late 1970s and early 1980s. Since that time miscellaneous and periodic data collection has taken place. As a means of determining current water quality conditions and future trends within the Challis Resource Area, annual monitoring was implemented in 1993. Temperature data, macroinvertebrate samples, and limited water chemistry have been collected annually. In addition to these parameters, several single-event studies such as fecal coliform levels and ground water monitoring were performed by the Idaho Department of Health and Welfare's Division of Environmental Quality. Water quality conditions are assessed through a review of support of beneficial uses identified for each body of water. Assessment of support of the beneficial uses is accomplished through water quality sampling and a review of riparian habitat and channel characteristics. Beneficial uses and supported status for many of the streams in the Challis Resource Area are shown in *Appendix J, Item 1: Beneficial Use Classifications for Drainage Segments*, pp. 657-661.

"Water quality limited segments" (see *Glossary*, p. 186) are stream reaches officially identified by the State of Idaho which do not fully support the State designated and/or BLM identified beneficial uses for a given stream segment. These segments have one or more water quality-related factors which limit the full attainment of full support of one or more beneficial uses. "Water quality limited segments" within the Challis Resource Area are identified in *Appendix J, Item 1: Beneficial Use Classifications for Drainage Segments*, pp. 657-661 (see stream segments noted with an asterisk "*").

Total Maximum Daily Loads (TMDLs) will need to be calculated for priority streams listed as "water quality limited segments." TMDLs are maximum pollutant loads that are allowable from all activities within the watershed, while still fully supporting beneficial uses. Basin and Watershed Area Groups established by Idaho State Law will help prioritize those streams on which TMDLs will be calculated and monitored.

Most surface water in the RA originates in the high mountainous areas above the principal drainages and is of high quality near its source. However, water quality in many tributary streams becomes degraded as waters travel down the mountain to the principal drainage. Water may flow through or adjacent to irrigated croplands, mine tailings, feedlots, roads, population centers, open rangeland, or wilderness. Degradation occurs as sediments from soil erosion or other transported pollutants are deposited in the stream. Water quality is also affected by the inflow of ground water which is, as a general rule, of good to excellent quality.

Concentrations of major inorganic constituents (measured as dissolved solids) generally increase as waters move downstream. Although concentrations of total dissolved solids tend to decrease with increasing flows, an increasing ground water component (which is often high in dissolved solids) can cause increasing concentrations in surface water flows.

Bacteriological water quality data indicate a wide variation in coliform levels over time. Generally, coliform levels vary directly with sediment and turbidity during runoff events and with the presence of livestock in the stream bottoms during low flow periods. Coliform levels at BLM sites below private land are often higher than at BLM sites above private land. Levels of coliform are almost always in excess of recommended drinking water criteria throughout the Resource Area. Cases of giardiasis believed to have been contracted from waters in the RA have been reported. Generally, watersheds with big game or livestock use or high recreational use have the greatest potential for high biological water pollutants. Most natural surface waters in the RA are probably biologically contaminated to some degree and a threat to human health if consumed untreated.

The sediment yield for streams in the RA varies depending on geology, soil type, precipitation, land use, and the physical characteristics of a given watershed. Sediment yields are accelerated in many areas by surface-disturbing land uses such as grazing, mining, road construction and maintenance, and off-highway vehicle use. Nutrient loading from grazing and agricultural practices is contributing to excessive nutrient impacts (Idaho Department of Water Resources, DEQ 1988).

Stream temperature is sometimes a limiting factor to salmonid production within the Challis RA. The impacts of high water temperature in the Resource Area are highly variable and result from a combination of several different factors. Poor vegetative condition in riparian areas can allow excessive solar radiation to reach the stream, resulting in higher water temperatures. This effect is even more significant and damaging to fisheries populations during low flow or drought years. Diurnal variations in stream temperature are also exaggerated under these conditions. Conversely, areas with adequate mature riparian vegetation shade the stream channel, reduce the input of solar radiation, maintain cooler water temperatures (even in drought years), and reduce the diurnal fluctuation of water temperatures, thus enhancing the survival of fisheries resources. These conditions are particularly important during periods of low flow. Water temperature also has a significant influence on the concentration of dissolved oxygen in the water column; cooler temperatures (required for salmonid survival) have a higher oxygen saturation potential.

Summary of Surface Water Quality, by Principal Drainage Basin

The following paragraphs summarize the water quality of each main drainage within the Challis Resource Area. A more detailed description of water quality conditions within each drainage is provided in *Appendix J, Item 2*, pp. 662-666.

Overall, water quality in most of the tributaries of the East Fork Salmon River appears to be in good to fair condition, with three streams in good/stable condition, two streams exhibiting an upward trend, four streams remaining in fair, but static, condition, and one stream remaining in poor condition, but stable. In general, the upper reaches of each stream tend to be in better condition than reaches near the mouth. There is potential for continued improvement throughout the watershed.

The Main Salmon River Watershed, with the exception of Little Hat Creek, appears to be in good to fair condition, either remaining static and/or indicating slight to moderate improvement over time.

Water quality in the Upper Pahsimeroi River and most of its tributaries appears to be in good condition. Current trend is unknown, since monitoring has just recently been implemented in the majority of tributaries; however, there is slightly more degradation of water quality as one nears the mouth of the Pahsimeroi River, which is primarily due to private land use and irrigation diversions. Several outlying streams have been shown to exhibit less than desired aquatic health; these small, unvegetated streams at the upper end of the watershed have poor overall water quality conditions, but still maintain high potential for improvement.

Aquatic monitoring was implemented in 1997 in the Little Lost River Watershed. Preliminary results indicate that water chemistry is within desired levels. Although there is limited information available, water quality appears to be in good condition throughout the watershed.

At this time the BLM has little information about the Big Lost River Watershed, because monitoring of that watershed has not been conducted. It is believed that most streams meet temperature and pH requirements for cold water biota. Through observation and professional judgement, the majority of streams appear to be in a functional-at-risk category. Extrapolating from these conclusions, overall water quality would seem to be in fair condition, with the potential for improvement.

Wilderness Study Areas.

Law, Regulation, and Policy

Wilderness authority on public lands is found in the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*) and in "Wilderness Study Policy; Policies, Criteria and Guidelines for Conducting Wilderness Studies on Public Lands" (*Federal Register*, Vol. 47, No. 23, 5098-5122). BLM guidance for Wilderness Study Areas is contained in BLM Manual H-8550-1 "Interim Management Policy and Guidelines for Lands Under Wilderness Review" (1995). Management guidance for the Wilderness Study Areas located in the Challis Resource Area is described in the *Challis MFP Amendment and Final EIS, Wilderness* (1982), *Big Lost/Pahsimeroi Final EIS, Wilderness* (1986), and *The Small Wilderness EIS* (1989).

Affected Environment

Seven Wilderness Study Areas (WSAs) totaling 142,260 acres of public lands are located within the Challis Resource Area (see *Map 42: Wilderness Study Areas*). The RA does not contain any designated Wilderness lands. However, the Frank Church - River of No Return (FC-RONR) Wilderness and Sawtooth Wilderness are on USFS lands within 25 air miles of the RA (see *Map 29: Local Wilderness Status*). The 2.2 million acre FC-RONR Wilderness is the largest in the contiguous 48 states, and is a popular recreation destination; the Wilderness had 475,000 Recreation Visitor Days in 1990 (Ken Stauffer, personal communication, Salmon National Forest). Several communities near the RA (Challis, Salmon, Stanley, Mackay, Sun Valley-Ketchum) depend on recreation-tourism for some portion of their local economies. Some of this recreation is specifically Wilderness-oriented, while other recreation opportunities depend on the scenery protected by WSA status. For example, portions of Mount Borah, the highest peak in Idaho and a popular destination for hikers and climbers, are located within the Borah Peak WSA.

The WSAs within the Challis RA were identified through an inventory process conducted between 1979 and 1981, following mandates in FLMPA, Section 603 and Section 202. WSA boundaries include portions recommended by the BLM to Congress as suitable for wilderness designation (see *Map 42: Wilderness Study Areas*). The Challis RMP is not intended to affect existing BLM recommendations on WSA suitability for wilderness designation, or to influence Congress' decision on which WSAs become designated wilderness. Instead, RMP decisions discuss management of the WSAs if *released* by Congress from wilderness review (see PRMP, WSAs - Management if Released from Wilderness Review, pp. 91-93).

Table 3-32 provides information about each WSA, including total acreage by designating authority and portions recommended to Congress as suitable for wilderness designation. All of these WSAs await either Congressional designation as wilderness, or formal release from wilderness review.

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Table 3-32: Wilderness Study Areas in the Challis Resource Area

WSA #	WSA Name	Acreage by Designating Authority[1]		Suitable Portions[2] (acres)
		Section 603	Section 202	
ID 45-1	Goldburg		3,290	0
ID 45-12	Burnt Creek	24,980		8,300
ID 46-11	Corral-Horse Basin	48,500		0
ID 46-13	Boulder Creek		1,930	0
ID 46-14	Jerry Peak	46,150		26,750
ID 46-14a	Jerry Peak West	13,530		0
ID 47-4	Borah Peak		3,880	3,880
Totals		133,160	9,100	38,930

[1] Indicates the authority under which the WSA was designated: FLPMA Section 603 or 202.

[2] Portions recommended by the BLM to Congress as suitable for Wilderness designation.

The values that qualified each WSA for wilderness study have remained relatively unchanged. These values include naturalness, roadlessness, and opportunities for primitive and unconfined recreation. Authorized uses within the WSAs include livestock grazing, OHV use on existing roads and trails, and recreational uses in general (sightseeing, backpacking, hiking, horseback riding, etc.). Some unauthorized OHV use and firewood cutting have occurred in the WSAs since designation. Unauthorized OHV use is common in the WSAs; however, new boundary signing and BLM Ranger patrols are expected to discourage both unauthorized vehicle use and firewood cutting.

The affected environment of each WSA is summarized below. Each summary discusses adjacent USFS roadless areas (if any) (see *Map 29: Local Wilderness Status*); the general topography and vegetative characteristics of the WSA; any man-made intrusions within the WSA (which existed prior to WSA designation); and recreational use of the WSA. A more detailed description of the affected environment for each WSA may be reviewed in the following BLM documents, which are available for review in the Salmon Field Office: *Challis MFP Amendment and Final EIS, Wilderness* (1982), *Big Lost/Pahsimeroi Final EIS, Wilderness* (1986), and *The Small Wilderness EIS* (1989).

Goldburg WSA

The Goldburg WSA contains 3,290 acres (recommended nonsuitable), and is adjacent to the USFS North Lemhi Rare II area (340,416 acres), recommended by the USFS as nonsuitable for wilderness designation. The Goldburg WSA is characterized by moderately steep sagebrush/grass-covered slopes, with scattered patches of Douglas-fir forest in the upper elevations. Recreational OHV use is uncommon in the WSA. The WSA presents a natural-appearing environment, with only a few fences and scattered water developments.

Burnt Creek WSA

The Burnt Creek WSA contains 24,980 acres (8,300 acres recommended suitable), and is contiguous with the U. S. Forest Service RARE II Area 4-210, Borah Peak, which is also recommended suitable. The eastern and northern portions of the WSA are characterized by open sagebrush/grass-covered hills. The southern and western portions are steeper, with scattered pockets of Douglas-fir and juniper. Man-made intrusions include the following: the Burnt Creek and Short Creek roads, approximately eight miles of unimproved but noticeable vehicle ways, the remains of an old dam which can be seen on Dry Creek, five developed springs, and eight miles of grazing allotment fence. Recreational OHV use in the Burnt Creek WSA is estimated to be 100 visitor days annually, and is generally associated with two-wheel motorcycles and ATVs used for recreation and hunting. Because of the roads up Burnt Creek and Short Creek and vehicle ways above the old Dry Creek Reservoir, OHV users have relatively easy access into the three major drainages of the WSA. However, opportunities for solitude exist in the WSA due to its large size, topographic relief, vegetative screening, and remoteness.

Corral-Horse Basin WSA

The 48,500-acre Corral-Horse Basin WSA (recommended nonsuitable) is dominated by sagebrush/grass vegetation and scattered forested areas. The forested areas (approximately 2,000 acres) include 1,648 acres of commercial timber. Commercial timber volume is estimated at 12.36 MMBF (million board feet). All commercial forest stands are virgin old growth stands which have never been harvested. The WSA is the central home range of the Challis wild horse herd. Man-made developments include scattered fences and livestock waterholes. The fences blend into the natural landscape when viewed from more than one-half mile. Most waterholes have revegetated naturally, and appear to be a natural part of the landscape. Access to areas within the WSA is limited to some four-wheel drive trails and two poorly maintained roads (Anderson Ranch Road and Broken Wagon Road). Recreational uses include sightseeing, rockhounding, hunting, and wildlife and wild horse viewing. Visitor use is estimated at 1,000 visitor days annually for all types of recreation uses. The Challis ORV management plan currently restricts vehicle use to existing roads and trails because of WSA status. However, in the Sand Hollow area of the WSA, 3,905 acres are closed to OHV use due to fragile soils.

Boulder Creek WSA

The Boulder Creek WSA contains 1,930 acres (recommended nonsuitable), and is adjacent to the USFS Boulder/White Cloud Rare II area (433,000 acres). The portions of the RARE II area which are contiguous with the WSA were not recommended suitable for wilderness designation. The WSA is characterized by moderately steep sagebrush/grass-covered slopes, with small timber patches on the north and south ends. There are two short underground livestock water pipelines in the WSA. Three Forest Service trails pass through the WSA and provide access to the Sawtooth National Recreation Area (SNRA). Motorized recreational use is limited to trailbikes and is estimated at no more than 40 user days per year (most of this is "pass through" use by individuals heading into the SNRA). In conjunction with adjacent roadless lands, the WSA offers opportunities for solitude and primitive recreation.

Jerry Peak WSA

The Jerry Peak WSA (46,150 acres; 26,750 acres recommended suitable) is characterized by a variety of landforms and vegetation types, from low elevation sagebrush/grass to high elevation forested/subalpine areas. Forested sites (6,539 acres) include 3,843 acres of commercial timber, mostly old growth. Some stands in the eastern portion of the WSA were logged during the 1960s. Commercial timber volume is estimated at 28.8 MMBF. Most of the commercial timber is located between Herd Lake and Sage Creek and is suitable for logging. Ninety percent of the timber is Douglas-fir, with the remainder consisting of limber pine, subalpine fir, and Engelmann spruce. For the most part the timber consists of medium sawtimber (approximately 16 inches DBH). Slopes vary from 15 to 80 percent, with an average of 45 percent.

Man-made developments include scattered fences and spring developments associated with livestock management. Four unimproved two-track vehicle ways enter the WSA. The overall influence of human intrusions is light, due to the dispersal of developments.

Primary recreation activities are hunting, fishing and sightseeing. Hiking, backpacking, horseback riding and other recreational pursuits occur to a lesser extent. Herd Lake, accessible by road, is a primary destination point for many visitors. Visitor use is estimated to be 1,000 visitor days annually for all types or recreation. OHV use as a principal activity is estimated to be 150 visitor days annually. Three developed sites are contiguous to the WSA - the Herd Lake Overlook, Herd Lake Campground, and Upper Lake Creek Campground. The Upper Lake Creek Campground was closed following the 1983 earthquake, which caused severe damage to the road.
The area provides outstanding opportunities for solitude. Large tracts of undeveloped BLM lands to the north and USFS lands to the south contribute to the maintenance of solitude.

Jerry Peak West WSA

The 13,500-acre Jerry Peak West WSA (recommended nonsuitable) is a thin strip of land located between the East Fork Salmon River and the Challis National Forest. The WSA is bounded by land ownership lines rather than geographical landmarks. Vegetation in the WSA varies from riparian willow bottoms to sagebrush/grass-covered foothills and small forested areas at the edge of the Challis National Forest. Man-made developments include a fence and three spring developments. Recreation use in the WSA is low, and OHV use is virtually nonexistent. Presently, visitor use is estimated to be 40 visitor days annually for all types of recreation. The terrain is steep and most access points are controlled by private landowners.

Borah Peak WSA

The 3,800-acre Borah Peak WSA (recommended suitable) is located 15 miles northwest of Mackay, Idaho, and is contiguous with that portion of the 119,000-acre Borah Peak RARE II area that the USFS has recommended suitable for wilderness designation. The Borah Peak WSA is characterized by moderately steep to steep slopes sparsely covered with sagebrush/grass vegetation. Forested areas occupy approximately 311 acres. Human-caused intrusions are numerous: Elkhorn Creek is dewatered by an irrigation diversion, the western boundary of the WSA is defined by an existing high voltage transmission line, and the WSA contains two miles of pasture division fence and two livestock water troughs. Recreation use is primarily limited to hunting and motorized vehicle use on existing trails. The extremely rough, rocky terrain inhibits other uses.

Jerry Peak WSA and Herd Lake

Wild Horses and Burros.

Law, Regulation, and Policy

Wild horses and burros on BLM public lands are administered under the Wild Free-Roaming Horse and Burro Act of 1971, as amended (16 U.S.C. 1331-1340). Regulations governing this program are found in 43 CFR 4700. The Challis wild horse herd is managed under a Herd Management Area Plan (HMAP) written in 1976 and updated in 1979 and 1989.

Affected Environment

Wild Burros

A small herd of wild burros formerly utilized a portion of the Morgan Creek allotment. Through the *Ellis-Pahsimeroi Management Framework Plan* (1982), a decision was made that the herd was not a viable herd at the time the Wild Free-Roaming Horse and Burro Act (PL 92-195) was passed. The existing burros were removed, and the area is no longer utilized as a Herd Management Area for wild burros.

Wild Horses

The Challis wild horse Herd Management Area (HMA) is shown on *Map 48: Wild Horses*. The HMA is bordered on the north by the Salmon River, on the west by the East Fork Salmon River, on the south by the ridgeline between Herd Creek and Road Creek, and on the east by U.S. Highway 93 and the watershed boundary between the Salmon River drainage and the Lost River drainage. Land status within the wild horse HMA is shown in *Table 3-33*.

Table 3-33: Land Status of Challis Wild Horse Herd Management Area

Land Status	Acres	Percent
BLM	154,150	94
State of Idaho	9,454	5
Private	1,116	1
Total	164,720	100

Within the above acreage, two areas are closed to wild horse and livestock use due to fragile soils. The Malm Gulch/Germer Basin area has been closed to all livestock and wild horse grazing since 1969. This area has been fenced to exclude livestock, and any wild horses found within the area are gathered during scheduled roundups. The Sand Hollow area has been closed to all wild horse and livestock grazing since 1979. Livestock access is controlled by drift fencing, but the area is too large to economically fence all of it. Limited numbers of wild horses use the upper portion of the Sand Hollow area. Any horses found in the area are gathered during regularly scheduled roundups. Private lands within and adjacent to the Herd Management Area are generally used for purposes that are compatible with wild horse management. There have been very few instances of wild horses straying from the Herd Management Area boundaries.

The revised Herd Management Area Plan (HMAP) for the Challis wild horse herd (1976, revised 1979 and 1989) states that the herd will be managed to maintain 185 animals, with gatherings every other year to reduce the population to that level. This number was chosen as an appropriate management level at which the range could sustain wild horse use over the long term while maintaining an equilibrium with other resource uses. This has resulted in wild horse numbers varying from about 185 to about 253 animals between gatherings, as the herd normally increases at a rate of about 17% per year. Horses are gathered from the Herd Management Area every other year based on the limiting factor for this herd, which is the amount of winter forage available in each specific area. Excess horses are gathered by helicopter and BLM personnel on horseback and taken to corrals in Salmon. There they are freeze-branded, receive veterinary care, and are placed for private adoption under the BLM Adopt-a-Horse program. Gathering is done in accordance with procedures shown in *Attachment 5: Standard Operating Procedures - Wild Horses and Burros*, pp. 111-112.

Wild horse gathering

The diet of horses consists primarily of grasses, with a strong dietary overlap between horses and cattle (Hansen *et al* 1977, Hubbard and Hansen 1976, McInnis and Vavra 1987, Vavra and Sneva 1978). A study done in 1975 for the Salmon District BLM showed that grasses and grasslike plants made up 60 to 91 percent of the diet of wild horses on a seasonal basis, with bluebunch wheatgrass the major component of their diet (see *Appendix K, Item 1: Relative Percent Density of Discerned Contents From Wild Horse Fecal Samples*, pp. 667).

The 1977 Challis range inventory identified thirteen broad vegetation types; all of these types are found within the Herd Management Area. *Table 3-34* shows acres of these major vegetation types and the major vegetation species associated with each type in the Herd Management Area.

Table 3-34: Major Vegetation Types and Associated Vegetation in the Challis Herd Management Area

Vegetation Type	Acres*	Major Associated Vegetation Species
Wet meadow	254	Sedges, Kentucky bluegrass, roses, currants, willows, rushes
Wyoming big sage	60,144	Wyoming big sagebrush, bluebunch wheatgrass, Sandberg bluegrass
Mountain big sage	33,730	Mountain big sagebrush, Idaho fescue, bluebunch wheatgrass
Basin big sage	1,617	Basin big sagebrush, thickspike wheatgrass, western wheatgrass
Low sage	1,142	Low sagebrush, Idaho fescue, bluebunch wheatgrass, Sandberg bluegrass
Black sage	7,074	Black sagebrush, bluebunch wheatgrass
Three-tip sage	13,728	Three-tip sagebrush, Idaho fescue, bluebunch wheatgrass
Mountain mahogany	2,364	Mountain mahogany, bluebunch wheatgrass, Idaho fescue
Douglas-fir	6,300	Douglas-fir, snowberry, pinegrass
Shadscale	11,720	Shadscale, needle-and-thread grass, Indian ricegrass, sand dropseed
Nuttall saltbush	617	Nuttall saltbush, Indian ricegrass, bottle-brush squirreltail
Chicken sage	6,675	Chicken sage, Hood's phlox, Sandberg bluegrass
Riparian zones	92	Cottonwood, aspen, birch, alder, Kentucky bluegrass, slender wheatgrass

*does not include 8,693 acres of rock.

Source: Challis Herd Management Area Plan, Salmon District BLM, 1989 update.

In the 1977 inventory, range condition for the Herd Management Area was rated as follows:

Condition	Acres[1]
Good	15,601
Fair	71,103
Poor	52,453

[1] Does not include 6,300 acres of Douglas-fir type and 8,693 acres of rock. Also does not reflect the results of the 1994 upland inventory performed on the Mountain Springs (San Felipe) Allotment.

Wild horse use of riparian areas has been identified by the BLM as a potential problem. A great deal of work has been done in recent years to identify and correct riparian problems caused by livestock grazing. Ongoing riparian monitoring studies could identify the role of wild horses in riparian degradation, and may result in modifications to wild horse management.

The Challis Herd Management Area is well watered by natural springs and livestock water developments. In the past, there has been no need to construct water developments specifically for wild horse use. Fences have been constructed to aid livestock management. Under specifications of the Challis MFP (1979), fences within the Herd Management Area can be developed, but would be evaluated on a case-by-case basis and, when possible, designed to allow for wild horse movement. Existing fences are generally tied to a natural boundary, allowing places for wild horses to move around the ends of the fences.

Wild horses in the Challis herd do not display any unique characteristics, but instead exhibit characteristics that show the diversity of draft and saddle horses that were their ancestors. The herd is managed for healthy, good conformation horses that are pleasing to the eye, with unique colors a secondary consideration.

The wild horse herd generally appears healthy and viable. As noted above, the herd usually increases at a rate of about 17% per year. At each gathering, horses are examined by a licensed veterinarian, who notes the general health of the captured animals. No significant animal health problems have been noted in past roundups. Potential problems to the herd could result from harassment by off-highway vehicle (OHV) users, deliberate rustling, disease, severe winter weather, and fire. OHV use is currently addressed by an MFP decision to monitor OHV use and restrict organized events on critical winter range. Deliberate wild horse rustling is controlled by a BLM law enforcement ranger. Severe winter weather cannot be controlled, but managing for levels of wild horses that are within the capacity of winter range is within the scope of BLM management. Wildfires within the Herd Management Area are rare and do not generally cover enough area to be a problem for wild horses.

The Challis MFP contained a decision to provide a public viewing area for wild horse observations. Due to budget constraints, this area was never developed. The public demand for this type of viewing area is believed to be low, but probably still exists. As tourism in the Challis area continues to increase, this type of public viewing area may become popular.

Wildlife.

Law, Regulation, and Policy

The following laws, executive orders, and policies provide guidance for the management of wildlife species and habitats. An expanded description of many of these authorities is provided in *Appendix E, Item 1*, pp. 638-643.

1) Endangered Species Act of 1973, as amended (16 USC 1531 *et seq.*).
2) Federal Land Policy and Management Act (FLPMA) (43 USC 1701).
3) Public Rangelands Improvements Act of 1978 (43 USC 1901 *et seq.*).
4) Sikes Act of 1960 (16 USC 670), as amended.
5) Wild and Free-Roaming Horse and Burro Act of 1971 (16 USC 1331).
6) Executive Order 12342 of January 1982 - Permits effective predator control with environmental safeguards.
7) Executive Order 11990, May 1977 - "Protection of Wetlands."
8) Executive Order 11989, May 1977 - "Off-Road Vehicle Use."
9) The *BLM Fish and Wildlife Resource Management Policy*, signed by Director Burford in 1983 (1) recognizes State management of resident species and that a State-Federal partnership is essential for species-habitat management programs; (2) encourages interdisciplinary teamwork in development of resource management options that meet fish and wildlife objectives; and (3) initiates active cooperation with state, local, and other Federal agencies in all facets of the wildlife program.
10) The "Interagency Memorandum of Understanding Concerning Animal Damage Control and NEPA Compliance" (BLM/APHIS; August 5, 1994) assigns responsibility for carrying out animal damage management, including compliance with NEPA and issuance of Records of Decision to APHIS.

Additional guidance is provided by the BLM Manual, Sections 6800-6840, and other miscellaneous supplemental guidance.

Under the authority of treaties such as the Treaty with the Eastern Shoshoni and Bannock, 1868, the BLM has responsibility to manage trust resources, including wildlife, for Federally recognized tribes which have treaty rights on public lands managed by the Bureau.

BLM policy includes a commitment to conserve listed and proposed threatened or endangered species and the habitats on which they depend, and a commitment to manage other special status species so that BLM actions do not contribute to a need to list these species. The Master MOU between the IDFG and BLM states that the BLM and IDFG agree to manage and/or conserve habitats and populations of the sensitive species listed in the MOU, to minimize the need for listing these animals as threatened or endangered.

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Affected Environment

This wildlife section is divided into four subsections - big game, upland game and waterfowl, non-game wildlife, and special status wildlife species.

Big Game

The Challis Resource Area contains big game populations of elk, mule deer, pronghorn antelope, and bighorn sheep. Estimated big game numbers and season of use are listed in *Table 3-35*. Trophy game animals include black bear and mountain lion; these species are discussed under the subsection "Non-game Wildlife - Predators and Furbearers."

Table 3-35: Estimated Big Game Numbers and Season of Use for the Challis Resource Area

Species	*Number*[1]	*Season of Use*
Elk	3,150 to 6,100	12/1 to 4/30
	350 to 1,550	5/1 to 11/30
Mule Deer	5,100 to 20,700	12/1 to 4/30
	2,200 to 12,200	5/1 to 11/30
Antelope	2,300 to 6,600	11/1 to 5/1
	2,100 to 6,000	4/30 to 10/31
Bighorn Sheep	240 to 565	11/1 to 4/30
	60 to 240	5/1 to 10/31

[1] Estimates are for BLM lands only, and were developed by the Idaho Department of Fish and Game (1992). Population numbers fluctuate annually, depending on hunter harvest, weather, and habitat condition on BLM, private, State, and National Forest lands. Occasional moose and mountain goats are observed on BLM lands, but numbers are not high enough to warrant listing.

Elk

Elk populations have been increasing in the RA during the last 10 to 15 years, and areas of use have expanded. Elk may now be seen almost anywhere in the RA where suitable habitat is present. IDFG management is directed at stabilizing elk populations and maintaining existing numbers through hunter harvest (IDFG 1991a).

Important elk habitats are illustrated on *Map 21: Elk Winter Range and Donkey Hills Calving Area*. Crucial winter/yearlong ranges for elk include the area around Willow Creek Summit, the Donkey Hills, the Pahsimeroi Mountains south of Ellis, Idaho, the Lone Pine/Germer Peak area, and the Ellis Creek/Morgan Creek watersheds. Major calving areas are present in the Donkey Hills and along the migration corridor between Willow Creek Summit and the White Cloud Mountains. Calving occurs on winter and early spring ranges if deep snow delays migration to summer range.

Preferred areas of use in the Challis Resource Area are usually away from well-traveled roads (security areas) and characterized by vegetation mosaics of timbered or brushy hiding cover and open sagebrush-grassland foraging sites. Important hiding cover is provided by timber stands, patches of mountain mahogany, aspen-willow riparian zones, and rugged terrain. Close proximity to water is an important factor during spring, summer, and fall. Yearlong or spring-summer-fall elk ranges are present throughout the RA at higher elevations wherever forested habitat sites and topography provide good security from roads and other human activity. Most spring-summer-fall elk range is on adjacent National Forest lands.

The condition of spring-summer-fall ranges can be just as important to elk populations as more limited winter ranges. On spring ranges, the availability of nutritious forage during final months of gestation prior to the June calving season can affect birthing and calf survival. On summer-fall ranges, the availability of quality forage is an important factor in the build-up of body fat reserves for animals to survive the winter.

Only limited inventories and monitoring studies of habitat conditions have been conducted on elk ranges in the RA. In the 1970s, browse form class inventories and pellet group transects were conducted on big game ranges in scattered areas. Forest and grassland cover types were mapped in the Donkey Hills, and elk and mule deer pellet group transects were used to determine areas of heavy use. Nested frequency trend studies have been established in areas of livestock use to monitor vegetative trend. Utilization studies of elk use on bluebunch wheatgrass were conducted on the Willow Creek Summit elk winter range. Kratville (1989) provided data on elk habitat selection and distribution, but quantitative inventories, analyses and monitoring studies specific to elk habitat conditions have generally not been conducted due to limited funding and other priorities. General observations suggest that existing habitat conditions are sufficient to maintain current populations.

Elk diets in the RA are similar to cattle diets, although elk make somewhat less use of grass. During winter, grasses make up slightly over half the diet, and forbs and browse comprise the remainder. Studies by Kvale (1981), Wittinger (1978), and Hansen (1975) indicate that winter-spring grass use amounts to 51 percent. Winter and spring forb use amounts to 34 percent and 43 percent, respectively. Winter and spring use on browse amounts to 16 percent and 5 percent, respectively. Use of grasses and forbs increases greatly during summer.

Mule Deer

Mule deer populations in the RA are currently considered stable, and current management direction is to maintain existing numbers (IDFG 1991b). Mule deer can be found in variable numbers throughout the RA. Mule deer winter ranges are illustrated on *Map 32: Mule Deer Winter Range*. Yearlong or spring-summer-fall mule deer ranges are present throughout the RA wherever forested and brushy habitat sites or topography provide security cover, and where water and food sources are readily available. As with elk, the condition of spring-summer-fall ranges can be as important to population survival and stability as the condition and availability of more limited winter ranges.

Limited inventories and monitoring studies of mule deer habitats have been conducted in conjunction with the elk habitat studies described above. Quantitative inventories, analyses, and monitoring studies specific to mule deer habitat conditions have not been conducted due to limited funding and other priorities. General observations suggest that habitat conditions are sufficient to maintain current mule deer populations.

Preferred areas of use are characterized by vegetation mosaics of timbered or brushy hiding cover mixed with sagebrush-grass and mountain mahogany foraging sites. Important cover types include timber stands, willow, aspen, and tall sage. Close proximity to water is an important factor during spring, summer, and fall. Extensive blocks of sagebrush-grass vegetation provide only marginal habitat due to lack of good hiding cover.

Specific fawning and fawn rearing areas have not been delineated in the RA. Fawning habitat has been characterized by Leckenby, *et. al*. (1982) and Hall (1985) as the presence of herbaceous succulent forage, close proximity to water, 40% canopy cover of shrubs more than 28 inches tall, and within 160 feet of tree cover. Riparian zones and aspen stands are important components of good fawning and fawn rearing cover (Leckenby *et. al.* 1982 and Hall 1985).

Food habit studies conducted in the RA (Kvale 1981, Wittinger 1978, Hansen 1975, Yeo 1981) indicate that local mule deer diets are not significantly different from other areas in the West in terms of browse, forb, and grass composition. However, poor shrub species diversity in much of the RA forces deer to depend heavily on big sage. Mountain big sage, Wyoming big sage and three-tip sage comprise up to 80% of winter mule deer diets in the RA. Mountain mahogany and green rabbitbrush are heavily used where they occur.

Pronghorn Antelope

Antelope population levels in the RA were described as optimum by the IDFG in 1991 (IDFG 1991c). Numbers have declined since that time due to a number of reasons, including special depredation hunts permitted by the IDFG to reduce crop damage claims. Current IDFG management direction is to increase numbers slightly above existing levels.

Pronghorn antelope make extensive use of sagebrush-grassland habitat types at all elevations. Annual variations in snow distribution and depth influence antelope distribution on crucial winter ranges. Proximity to water affects antelope distribution on spring/summer/fall ranges. Areas distant from water are used only during winter. Antelope winter ranges in the RA are illustrated on *Map 3: Antelope Winter Range*.

As with other big game species, the condition of summer/fall ranges can be an important factor in the winter survival and stability of antelope populations. Limited inventories and monitoring studies of antelope habitats have been conducted in conjunction with upland trend studies on areas grazed by livestock. Quantitative inventories, analyses, and monitoring studies specific to antelope habitat conditions have not been conducted by the BLM due to limited funding and other priorities. The IDFG has conducted a number of site-specific antelope habitat, behavior and population distribution studies in the RA (Bernt 1976; Bodie 1979; Autenrieth 1986; Fichter and Nielson 1959; Fichter 1957a; Fichter and Nielson 1962; Fichter and Nielson 1957b). Some of these studies identify antelope habitat components in the RA that were considered less than satisfactory. None of these studies have been repeated to determine if these habitat components have changed.

Fawning is usually widely scattered across broad areas; however, a few specific fawning areas have been identified. Fawning areas and breeding territories are clustered near water sources. Habitat diversity (cover and height of sagebrush, presence of forbs and grasses) is an important factor in fawning success (Barrett, *et. al.* 1981). Loss of shrubs or herbaceous cover reduces habitat carrying capacity and fawning success (IDFG 1991c). Forbs and grasses are a crucial source of forage during spring, and provide necessary cover to conceal fawns from predators.

Antelope diets consist of nearly 70% sagebrush on a yearlong basis. Forbs make up 40% of the diet in summer or fall and up to 25% in spring. Grass makes up only 5% of summer and fall diets. In early spring, however, perennial grasses are one of the first forage plants to become green, and grass constitutes up to 25% of the diet at that time (Wildlife Section, Challis Unit Resource Analysis; BLM 1978). Chicken sage (*Tanacetum nuttalii*) makes up 90% of antelope winter diets on some winter ranges in the RA (Bernt 1976).

Bighorn Sheep

Historically, bighorn sheep were abundant throughout most of the RA. Settlement resulted in severe population declines and complete loss of some populations due to the introduction of scabies and other diseases. Most lambing occurs on traditional areas on adjacent National Forest lands, but some lambing is known to occur on winter ranges in Morgan Creek, Birch Creek/Bayhorse Creek, and the Cronk's Canyon areas. Important bighorn sheep winter ranges are illustrated on *Map 17*.

Most summer-fall bighorn sheep use occurs on adjacent National Forest lands. However, a small number of bighorn sheep remain yearlong on BLM lands in the Morgan Creek and Cronk's Canyon areas.

Limited inventories and monitoring studies of bighorn sheep habitat conditions have been conducted in conjunction with upland trend studies on areas grazed by livestock. Most have not been re-read to determine if there have been any significant changes in habitat conditions. The IDFG and other investigators have conducted a number of site-specific bighorn sheep studies in the RA (Lauer and Peek, 1976; Ballard 1991; Peek et.al. 1979; Morgan 1970). Earlier studies indicated that forage competition between cattle, mule deer and bighorn sheep was a problem on some areas of bighorn sheep winter range. Cattle grazing has since been reduced on portions of each bighorn sheep winter range, mule deer numbers have declined, and prescribed burning was conducted in two areas to improve forage conditions. On the Morgan Creek bighorn sheep range, Daubenmire vegetative trend study data suggest that habitat conditions have improved since the early 1970s (Scott, pers. comm.) Nevertheless, recent investigations indicate that disease, drought and poor forage conditions are significant limiting factors for RA sheep populations (Ballard 1991). Quantitative inventories, analyses, and monitoring studies specific to bighorn sheep habitat conditions have not been conducted due to limited funding and other priorities.

The largest populations of bighorn sheep in the area use BLM lands in the Morgan Creek watershed (a tributary of the main Salmon River north of Challis) and lands along the East Fork Salmon River. These two herds have varied from 150 to 300 animals, depending on the effects of weather, predation, and removal of animals by the IDFG for transplanting programs. The Birch Creek population, located immediately south of Challis, Idaho, consists of only 40 to 50 animals. An estimated 20 to 30 sheep are commonly present in the Cronk's Canyon ACEC, established in 1987 to maintain habitat for this small population.

During recent years, the East Fork Salmon River and Morgan Creek bighorn sheep populations have provided transplant stock for establishing new populations locally and regionally. Several future transplant sites in the Resource Area have been identified by the IDFG where new populations would use BLM lands. These include Jerry Peak, Germer Peak, and the areas of Herd Creek and the East Fork Salmon River adjacent to Sheep Mountain on the Challis National Forest (IDFG 1990a).

Bighorn sheep require areas adjacent to extremely steep, rough, or precipitous terrain which provide escape and security cover. Shrubby mountain mahogany and open sagebrush-grass sites interspersed with steep escape cover are typical of foraging and loafing areas. Stands of dense timber and brush are usually avoided, except when sheep are forced to move through such areas during migration from summer to winter ranges. As with other big game species, the proximity of water, forage availability, and forage quality are important factors during spring, summer, and fall.

Bighorn sheep seek out succulent forage when feeding. Prescribed burning has been used to enhance forage quality and availability on some bighorn sheep ranges in the RA. Diet studies indicate that bighorn sheep diets in the RA consist of more than 80% grasses (Lauer and Peek, 1976; Ballard 1991); the remainder consists of forbs and shrubs.

Factors affecting the stability and productivity of bighorn sheep populations are complex. Bighorn sheep are highly susceptible to a number of diseases. Increased levels of stress due to disturbance, limited forage availability, or poor habitat condition can lower disease resistance and reduce reproductive success. Bighorn sheep diets and cattle diets are essentially the same. Competition for available forage can occur on bighorn sheep winter ranges that are grazed by cattle. Competition between domestic livestock, other big game species, and bighorn sheep includes avoidance behavior. Although bighorn sheep may be seen using habitat near other animals one day, the proximity of other animals can stress the sheep enough to push them out of the area.

Upland Game and Waterfowl

Sage grouse, blue grouse, Hungarian partridge, and chukar partridge are the primary upland game birds in the RA. Ruffed grouse may be present in small numbers in some low elevation riparian areas. Mourning doves nest in low densities in most habitat types. Ring-necked pheasants and wild turkeys are found in the Round Valley area (primarily private lands). Cottontail and pygmy rabbits are present in variable numbers.

Sage grouse, blue grouse, and chukar partridge receive significant hunter attention during fall seasons when populations are high. When bird populations are low, fewer hunter days are spent afield. Waterfowl hunting demand is relatively light due to limited availability of waterfowl hunting areas on public lands. However, land acquisitions by the BLM and IDFG in the Chilly Slough area have provided public access to new waterfowl hunting areas.

Sage Grouse

Sage grouse populations in the RA appear to be well below historic levels. Populations are also down throughout southern Idaho. Drought, habitat loss, predation, habitat condition, and hunting are all factors that may be contributing to this decline.

Sage grouse utilize traditional winter and summer ranges similar to big game animals (see *Map 36: Sage Grouse Winter Ranges and Strutting Grounds*). The birds are almost exclusively dependent on sagebrush and herbaceous vegetation for cover. Sagebrush makes up more than 90% of their diet during winter. Hens are highly selective for nest sites in areas of specific height and canopy cover of big sage (Hall 1985). Most nesting occurs near strutting grounds (Autenrieth 1981; Wallestad and Pyrah 1974) that are used traditionally each year (IDFG 1990b). Due to the presence of water, insects, and succulent forage, riparian areas are important brood-rearing habitats and migration corridors (Autenrieth 1981, Call and Maser 1985).

Sage grouse habitat conditions vary greatly throughout the RA. Herbaceous cover is an important factor in sage grouse nesting and brood rearing success (Call and Maser 1985). Residual herbaceous cover remaining after livestock use may be less than adequate on some areas of sage grouse habitat in the RA. Hall (1985) asserts that grazing to a 1 to 2-inch stubble height during nesting or brood rearing periods can be detrimental to sage grouse and is equivalent to bare ground in terms of habitat value. The diversity and availability of forbs, grasses, sagebrush canopy cover, and sagebrush height are primary indicators of sage grouse habitat quality (Call and Maser 1985). Sage grouse habitat is less than satisfactory on some sites in the Resource Area due to poor diversity and height of forbs and grasses. Analyses and monitoring studies of sage grouse habitat conditions have only recently been implemented in the RA.

Blue Grouse

Blue grouse habitat is closely associated with Douglas-fir forested areas and aspen/willow riparian habitat types (see *Map D: Forest Lands*). Blue grouse winter in high elevation timber, often on adjacent National Forests, where they feed on needles and buds of Douglas-fir. In spring they migrate to lower elevation breeding grounds that are traditionally used every year (USFWS 1984). Specific breeding grounds within the Challis RA have not been identified. Following breeding, females seek brushy nesting cover under tall sagebrush or other brushy areas with herbaceous cover (IDFG 1990b). As with sage grouse, riparian areas are important blue grouse brood rearing habitats due to the presence of insects, succulent forbs, and berry-producing shrubs. Herbaceous cover is an important component of brood-rearing habitat, and its presence or absence will affect areas of use and brood survival (Harju 1974, Zwickel 1972). The quality of blue grouse breeding and nesting habitat is largely unknown in the RA.

Chukar Partridge

Chukar partridge, an introduced exotic species, are present throughout the lower elevations of the RA, usually associated with rock outcrops or small cliffs and talus rock adjacent to water sources. Riparian habitats adjacent to rocky escape cover are important brood rearing areas due to the presence of insects, water, and succulent plant foods. Studies and analyses of chukar partridge habitats have not been conducted in the RA. The condition of riparian habitats may contribute to brood-rearing success for this species.

Waterfowl and Shorebirds

The most common waterfowl species in the Resource Area are the Canada goose, mallard, and common goldeneye. Shorebirds include spotted sandpipers, willets, sandhill cranes, long-billed curlews and many others. Several local areas provide important habitat for waterfowl and shorebirds: the main Salmon River, Summit Reservoir, Mackay Reservoir, Jimmy Smith Lake, Herd Lake, and Chilly Slough. Each area contains wetland or open aquatic habitat that is on or adjacent to public lands. The most extensive waterfowl habitat area is Chilly Slough. IDFG (1990c) management plans call for protecting and improving waterfowl habitat through land and easement acquisitions. In 1987, the Thousand Springs/Chilly Slough Area of Critical Environmental Concern (ACEC) was designated to highlight and manage wetland values on seven tracts of public land (totaling 824 acres) in Chilly Slough. An interagency effort to acquire additional lands and easements in the area has resulted in acquisition of 920 acres through Chilly Slough interagency partnership.

Non-game Wildlife

Approximately 307 species of vertebrate non-game, furbearing, and predatory wildlife species inhabit the RA. Data regarding the abundance and distribution of non-game species, furbearers, and predators is limited. Significant differences in habitat requirements exist between species, and good condition habitat for one species is often poor condition habitat for another. To maintain diverse, viable, and abundant populations of these species, a mosaic of biologically and structurally diverse habitat types is necessary.

In general, structural diversity of vegetation relates directly to wildlife diversity; the greater the structural diversity, the greater the wildlife diversity (Dealy *et. al.* 1981). The "Biodiversity" section of ***Chapter 3*** also includes a discussion of structural diversity and its importance to the diversity of plant and animal communities. Riparian zones, aspen stands, mountain mahogany, and conifer forest habitats in the RA are highest in structural diversity. Riparian zones are the most important habitats for wildlife (Thomas *et. al.* 1979), due to the presence of water and highly variable structural diversity. Aspen stands provide nest sites for cavity nesting birds, and thermal and hiding cover for many other species (Dealy *et. al.* 1981). Snag trees in aspen and conifer stands are essential to cavity nesting non-game birds. Large, old mature live trees are a habitat component necessary to support many species of birds, bats, and other vertebrate and invertebrate species. The structural diversity of many riparian habitats in the Resource Area has declined due to losses of shrubs, trees, and herbaceous species important to proper riparian function. Important aspen riparian habitat sites are declining in the RA, based on the numbers of decadent and dead aspen stands and the evident lack of aspen regeneration.

Raptors

Important raptor nesting habitat includes cliff sites used by golden eagles, prairie falcons, and red-tail hawks; forested habitat sites (including aspen and cottonwood-riparian sites) are used by goshawks, Cooper's hawks, sharp-shinned hawks, owls, and osprey. Important raptor hunting areas are usually adjacent to nest sites. In 1978, raptor cliff nest sites were thoroughly inventoried in the RA. Very little follow-up monitoring of nesting activity has occurred due to budget constraints. Very few inventories of owls or accipiter hawks have been conducted in the RA. Suitable osprey nesting habitat exists on private and public lands along the main Salmon River.

Predators and Furbearers

Important predators in the RA include the black bear, mountain lion, coyote, red fox, and bobcat. The black bear and mountain lion are classed as trophy game animals in Idaho. Black bears are normally found in forested and riparian habitat types, while mountain lions are usually associated with remote, rough topography. Coyotes are common in the RA. Tracks and other sign are easily located, and howling coyotes can be heard regularly. Coyotes cause occasional livestock losses and also prey on elk calves and deer and antelope fawns. Beaver can be found in various numbers in almost every watershed with perennial water in the RA.

Special Status Wildlife Species

Table 3-36 summarizes the special status bird, mammal, amphibian, and reptile species (see *Glossary*: special status species) which are currently known to occur or may possibly occur in the Challis Resource Area. (Special status fish species are described in ***Chapter 3*** - Fisheries, pp. 222-227.) The discussion below provides additional information about some of the endangered, threatened, proposed, and sensitive species listed in *Table 3-36*.

Endangered Species

In 1995 and 1996, a total of 35 endangered gray wolves were released in National Forest Wilderness Areas adjacent to the Challis RA. The wolves are categorized under the ESA as an "experimental-nonessential" population, as outlined in the final rules published in the *Federal*

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Register, Vol. 59, No. 224, November 22, 1994. Wolves are a wide-ranging species, and occasional wolves from this population are known to cross BLM lands in the Challis RA during their wanderings.

Endangered peregrine falcons historically nested on cliff sites in the area. Peregrine falcons were reintroduced in 1988 when 8 birds were released on a BLM site in Chilly Slough north of Mackay, Idaho. Additional releases have taken place on adjacent National Forest lands. These releases are likely to result in future establishment of nesting pairs on BLM lands.

Threatened Species

More than 60 bald eagles have been counted wintering along the Salmon and Pahsimeroi rivers in the RA. Cottonwood riparian vegetation along the Salmon River provides bald eagle winter roost and hunting sites. No bald eagle nesting occurs in the RA, but potential exists for nesting to occur.

Bald Eagle

Other Special Status Terrestrial Species

Species Proposed for Listing as Threatened or Endangered: The RA is located within the range of the Canada lynx, a species proposed for listing as threatened. Lynx are known to occur on the adjacent Salmon-Challis National Forest. Forested areas in the Challis RA may provide marginal habitat for lynx which occupy much more extensive home ranges on the adjacent National Forest.

State Sensitive Species: Little is known about the presence or absence, distribution, and abundance of most "sensitive" species in the area. Extremely rare sightings of wolverines have been reported in the RA. Goshawks are occasionally seen in forested areas and are likely nesting on RA lands. Trumpeter swans have been documented in Chilly Slough. Long-billed curlews are a relatively common nesting species in the RA. Boreal owls, flammulated owls, pygmy nuthatches and other sensitive species are likely present in higher elevation timbered habitats in the RA. Western toads have been documented in aspen-riparian habitat sites.

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Table 3-36: Special Status Wildlife Species of the Challis Resource Area

Class	Type	Species	Occurrence
Endangered	Mammal	Gray wolf	present
	Bird	Peregrine falcon	present
Threatened	Bird	Bald eagle	present
Proposed	Mammal	Canada lynx	present
Sensitive	Mammal	Long-eared myotis	unknown
		Long-legged myotis	unknown
		Fringed myotis	unknown
		Pygmy rabbit	present
		Small-footed myotis	present
		Spotted bat	unknown
		Townsend's big-eared bat	present
		Wolverine	present
		Yuma myotis	present
		Dark kangaroo mouse	unknown
		Kit fox	unknown
	Bird	Trumpeter swan	present
		Ferruginous hawk	present
		Northern goshawk	present
		Harlequin duck	unknown
		Northern harrier	present
		Prairie falcon	present
		Flammulated owl	unknown
		Great gray owl	unknown
		Boreal owl	unknown
		White-headed woodpecker	unknown
		Black-backed woodpecker	unknown
		Three-toed woodpecker	present
		Lewis' woodpecker	present
		Red-naped sapsucker	present
		Sage grouse	present

Class	Type	Species	Occurrence
Sensitive *(continued)*	Bird *(continued)*	Long-billed curlew	present
		Pygmy nuthatch	unknown
		Loggerhead shrike	present
		Dusky flycatcher	present
		Cordilleran flycatcher	present
		Hammond's flycatcher	present
		Willow flycatcher	present
		Townsend's warbler	unknown
		Yellow warbler	present
		MacGillivray's warbler	present
		Wilson's warbler	present
		Solitary vireo	unknown
		Bobolink	present
		Swainson's thrush	present
		Veery	present
		Calliope hummingbird	present
		Rufous hummingbird	present
		Yellow-headed blackbird	present
		Grasshopper sparrow	unknown
		Brewer's sparrow	present
		Sage sparrow	present
		Green-tailed towhee	present
		Williamson's sapsucker	present
		Western burrowing owl	present
		Olive-side flycatcher	present
	Amphibian	Spotted frog	present
		Western toad	present

Source: Sensitive Species Supplement to the Master Memorandum of Understanding Between the Idaho Department of Fish and Game and the Bureau of Land Management. 11/6/97.

Wild and Scenic Rivers.

Law, Regulation, and Policy

The Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271-87 *et seq.*) is the basic authority for the BLM's Wild and Scenic Rivers program. Other laws which affect Wild and Scenic Rivers management include the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 *et seq.*), the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*), and the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601 *et seq.*).

Affected Environment

To date, no wild, scenic, or recreational rivers have been designated within the Challis Resource Area (see *Glossary*: Wild and Scenic River, p. 187). Within the immediate region, the U.S. Forest Service manages the designated "wild" Middle Fork of the Salmon Wild and Scenic River and the designated "wild" and "recreational" Main Salmon Wild and Scenic River.

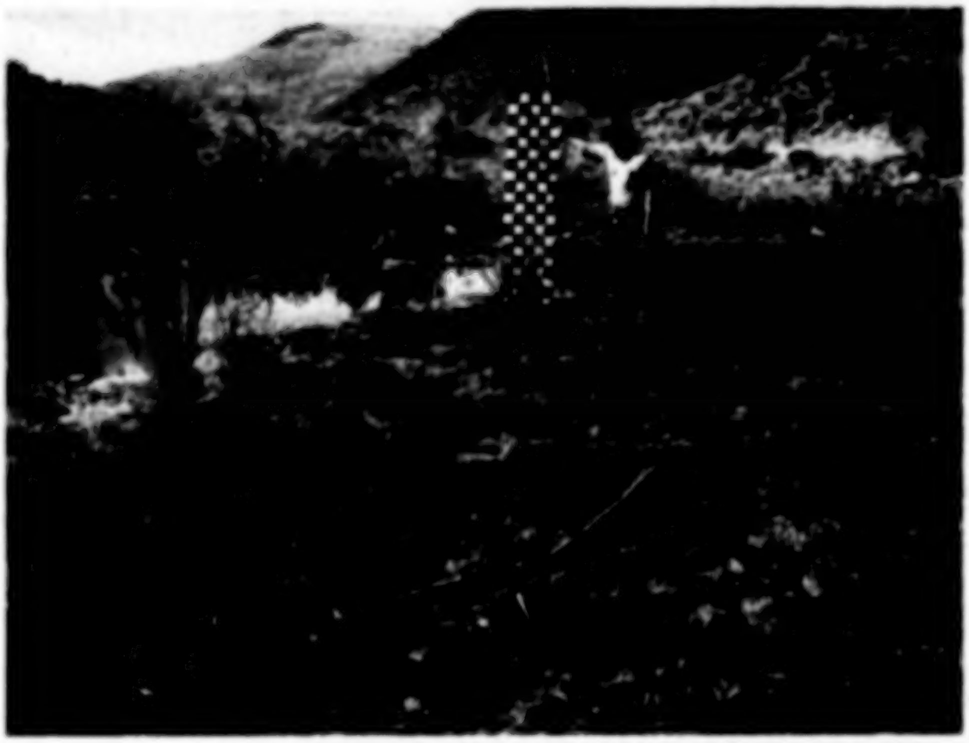
The Challis Resource Area has completed a Wild and Scenic River eligibility evaluation of 201 river segments, to determine their eligibility for potential inclusion in the National Wild and Scenic River System. The Resource Area provided an initial eligibility report (the "National Wild and Scenic Rivers Eligibility Report") to the public in July, 1992. Based on written comments and input received at public meetings, several changes were made to that report; a revised report on eligibility was provided to the public on March 22, 1993, with an addendum in June, 1993 (which incorporated additional public comments). The March, 1993 report contains full descriptions of each river segment included in the eligibility evaluation, and the criteria used in the eligibility phase of the Wild and Scenic Rivers study (also see *Glossary*: Wild and Scenic Rivers Study, p. 187; and PRMP, *Attachment 18*: *Wild and Scenic Rivers Study*, pp. 152-153).

Since the June, 1993 addendum was published, the following changes have been made to the eligibility status of some rivers. (1) New information on fisheries and wildlife resources indicates five river segments found "not eligible" in the Eligibility Report are, in fact, eligible, based on their fisheries or wildlife OR values: North Fork Birch Creek (MS-52), McKim Creek (MS-02), Spud Creek (MS-28), Donkey Creek (P-23), and Goldburg Creek (P-24). (2) One river segment, East Fork Salmon River "B" (EF-01b) which was erroneously deferred to a later determination of eligibility, has been found eligible for further study. (3) Fishery OR values believed to be present on the North Fork Big Lost River (BL-16) have not been confirmed upon further review. Therefore, river segment BL-16 is no longer eligible for further study.

Those rivers found eligible for further study have been included in a Wild and Scenic Rivers suitability study (see DRMP, Management Concern: Wild and Scenic Rivers, pp. 392a-399b; and PRMP, Wild and Scenic Rivers, pp. 98-100). Until a Record of Decision is signed for the Challis Resource Management Plan, all rivers found eligible are being managed for protection of OR values and maintenance of the free-flowing character of the rivers. Upon signing of the Record of Decision, rivers which were found "unsuitable" in the Resource Management Plan will be released from Wild and Scenic River management. Only the rivers which were found "suitable" in the study, and those which are eligible but are deferred for later coordinated suitability study with either the State of Idaho, the Upper Snake River District of BLM, or the U.S. Forest Service, will continue to be managed consistent with the requirements of the Wild and Scenic Rivers Act, pending formal designation or release by Congress.

Main Salmon River

Chapter 4
Environmental Consequences



***1987:** Active beaver dam; unsupervised livestock grazing*

***1996:** Silted-in beaver dam; supervised livestock grazing (note willow recovery)*

Vegetation/riparian resource recovery achieved through land management.

Introduction.

Chapter 4 describes the BLM's analysis of the beneficial and adverse physical, biological, economic, and social environmental consequences ("effects" or "impacts") of implementing the Proposed RMP decisions which were developed to address identified issues and management concerns (see **Volume 1**; ***Chapter*** 2 - "Proposed RMP Development," pp. 23-24). These effects (see *Glossary*, p. 171) may be direct, indirect, or cumulative, and occur in the short term (within 1 to 5 years of RMP implementation) or long term (within 6 to 20 years of RMP implementation). Except for the economy/society analysis, which considers effects within two geographical regions (the Fort Hall Indian Reservation and Custer/Lemhi counties), each analysis of direct and indirect environmental consequences considers the effects of RMP actions or other actions (private, State, other Federal agency) on resources within the Challis Resource Area boundary. The discussions of cumulative impacts consider the effects of RMP actions and non-RMP actions which may occur within, adjacent to, or, in some cases, well beyond RA boundaries (*e.g.*, air quality).

The impacts of all decisions described in the Proposed RMP were analyzed. However, only those decisions which were believed to have reasonably foreseeable impacts have a written statement under a numbered "analysis point." If no reasonably foreseeable impacts were predicted for an entire section of Proposed RMP decisions, then the introduction to the resource or land use analysis states there are no reasonably foreseeable impacts from those decisions.

(**Note:** ***Chapter 2*** contains a summary of the beneficial and adverse effects (including any irreversible or irretrievable commitments of resources) of implementing the Proposed RMP management decisions.)

Assumptions

An interdisciplinary approach was used when analyzing the environmental consequences of implementing the PRMP. The following general assumptions were made during the analysis and discussion of environmental consequences:

1) The RMP would remain in effect for approximately 20 years.

2) Funding and personnel would be sufficient to implement the PRMP as described.

3) Implemented management decisions would comply with all valid existing rights, Federal regulations, BLM policies, etc.

4) Effects are discussed in detail if they are expected to be reasonably foreseeable (whether beneficial or adverse). In some cases, non-significant effects are presented to better illustrate the scope and effect of management decisions or to differentiate between significant and non-significant impacts.

5) Short term impacts would generally occur within a 5 year period following implementation. Long term impacts would generally occur during a 6 to 20 year period following implementation.

6) The cumulative effects analysis considers the effects of actions occurring on Challis Resource Area

public lands and contiguous lands (USDA Forest Service, State of Idaho, private); the cumulative effects analysis considers past actions (which have already been completed), present actions (which are ongoing), and reasonably foreseeable future actions which are expected to be initiated within the 15 to 20 year life of the RMP.

7) Any identified net unavoidable adverse impacts would be monitored and continually evaluated during the life of the RMP. When necessary based on plan monitoring, adjustments in management actions would be made to minimize adverse effects.

Chapter Format

Chapter 4 discusses the direct/indirect and cumulative effects of the Proposed RMP decisions on the resources and land uses of the Challis Resource Area in alphabetical order. The analysis for each resource or land use generally adheres to the following format. First, the analysis states which, if any, sections of Proposed RMP decisions are expected to have no reasonably foreseeable effect. Then, the analysis of predicted environmental consequences is presented, using consecutively numbered analysis points. A summary of effects is given, followed by a detailed discussion of direct and indirect effects; finally, each resource or land use analysis concludes with a statement of cumulative effects. Where applicable, the analysis indicates the "source of effects" in the left column; namely, a Proposed RMP section subheading indicates the group of management decisions from the Proposed RMP which produced the indicated effect.

Resource Analyses.

Air Quality

Summary of Effects/Cumulative Effects: No significant adverse or beneficial impacts to air quality would be expected. Air quality in the Challis Resource Area would remain within the limits set by national ambient air quality standards and standards for the prevention of significant deterioration in Class II areas. No significant adverse or beneficial cumulative impacts to air quality within the Challis Resource Area would be expected from actions on adjacent Federal, State, and private lands within Custer or Lemhi counties. The following minor direct/indirect impacts may occur.

Direct/Indirect Effects:

1. Concentrations of suspended particulate matter from dust may be locally higher than regional concentrations around roads, cattle trailways, and project sites, but would be typically temporary and quickly dispersed. Management actions which help achieve upland watershed vegetative cover objectives would tend to maintain or reduce the potential for windblown dust.

2. Changes in methane production from adjustments in livestock numbers on BLM lands would be imperceptible. If livestock numbers are reduced due to actions in the PRMP, some increases in livestock numbers may occur on private lands. The net change in methane production would be negligible. Therefore, regionally no significant change in methane levels would be expected.

3. Noxious weeds would be sprayed in conformance with the *Northwest Area Noxious Weed Control Program FEIS and Supplement* (1985, 1987). During spraying, locally higher concentrations of pesticide vapors may be expected, but these would typically be temporary and quickly dispersed. A recreation site may be temporarily closed if spraying occurs near the recreation site; however, the PRMP decision stated under Noxious Weed Infestations, Goal 3, #6 would reduce the likelihood of chemical use in recreation sites.

4. Prescribed burning for vegetation treatment, understory removal, and slash burning would be limited to established annual acreage or tonnage limits which are designed to preserve air quality within Class II standards. Proposed projects that may affect the Class I airsheds of National Parks or designated Wilderness near the Challis Resource Area would be reviewed for potential impacts and modified to prevent adverse effects to these Class I airsheds. All other BLM-authorized actions, including the leasing of oil, gas, and geothermal resources, would consider the potential for deterioration of air quality and apply appropriate mitigation through the National Environmental Policy Act (NEPA) process.

Areas of Critical Environmental Concern/Research Natural Areas

No reasonably foreseeable effects to ACECs/RNAs would be expected as a result of decisions listed under the following PRMP sections: Air Quality, Hazardous Materials Management, Land Tenure, Recreation Opportunities and Visitor Use, Transportation, Tribal Treaty Rights, or Visual Resources.

Summary of Effects

1. ACEC values would be maintained on 88,206 acres. Potential for adverse effects on ACEC values from other land uses would be mitigated or reduced. Designation of 9,846 acres as RNAs is expected to maintain native plant communities, special status species, and rare/endemic species in a natural condition for study purposes. Periodic monitoring of special status plant populations and other ACEC resource values would help ensure that those values are maintained.

Direct/Indirect Effects on Maintenance of ACEC Values, by ACEC

Antelope Flat ACEC

2. The composition and extent of unique plant communities is expected to be maintained.

Birch Creek ACEC

3. Designation of this 8,469 acre area as an ACEC, limitations on motorized vehicle use, monitoring of rare plant populations, and planning or design requirements for land use activities would help ensure that the bighorn sheep population, winter ranges, lambing areas and rare plant populations are maintained or enhanced. Acquisitions of State lands would enhance habitat integrity and provide for management of those lands to maintain bighorn sheep habitat requirements.

Cronk's Canyon ACEC/RNA

4. Approximately 1,496 acres of bighorn sheep yearlong and crucial winter habitat would remain a management priority. ACEC designation would minimize any potential for adverse effects on bighorn sheep that might result from other resource management or land use activities.

Donkey Hills ACEC

5. Designation of this 29,706-acre area as an ACEC would help ensure that big game habitat values are maintained, along with the productivity of regional elk populations. Acquisitions of State and private lands would enhance habitat integrity and provide for management of those lands to maintain big game habitat. Decisions regarding wildfire suppression in the ACEC would help prevent the catastrophic loss of big game winter forage due to a major wildfire event.

Dry Gulch ACEC

6. Designating this 539-acre ACEC would help ensure maintenance of rare plant populations and plant communities. Maintaining slope conditions along the existing road would result in occasional surface disturbance by heavy equipment, and maintain habitat suitability for the existing population of the special status species, wavy-leaf thelypody.

East Fork Salmon River Bench ACEC/RNA

7. Plant communities on the 78-acre ACEC would be maintained.

Herd Creek Watershed ACEC

8. Designating this 17,943 acre ACEC would help ensure maintenance of several rare/sensitive plant populations and unusual plant communities. Possible expansion of the Herd Creek exclosure would result in rapid improvement of additional riparian-aquatic habitat. Designation would also highlight the significance of the watershed as anadromous fish habitat.

Lone Bird ACEC

9. Designating this 9,969-acre area as an ACEC would help ensure that cultural resources, socio-cultural values, and rare/sensitive plant populations are maintained. Unauthorized off-road vehicle use and potential vandalism of cultural sites would be discouraged by closing the area to rockhounding, collection of mineral materials, and mineral material sales.

Malm Gulch/Germer Basin ACEC/RNA

10. The area's unique plant communities, rare plants, fragile soils and paleontological values would be maintained on the 7,823-acre ACEC. Potential for sediment transport caused by spring snowmelt and other runoff events would be minimized. The 2.5 miles of two-track road that would remain open to public use up Malm Gulch from Highway 75 would result in a minor amount of soil erosion and sediment transport. A small amount of erosion and sedimentation may also occur as a result of a BLM authorized semi-annual livestock trailing permit. The amount of erosion and sediment transport attributable to these actions would be minor, relative to the naturally occurring level of sediment discharge from Malm Gulch. The open road would continue to allow motorized vehicle access to within a short distance of the area's petrified trees. Occasional vandalism and damage to this unique resource is expected to continue. Closing the area to rockhounding and collection of mineral materials (*e.g.*, petrified wood) would discourage souvenir hunting, reduce damage to petrified trees, and reduce the potential for erosion and sedimentation.

Peck's Canyon ACEC/RNA

11. The native mountain mahogany plant communities would be maintained in natural condition for study purposes.

Pennal Gulch ACEC

12. Designating this 5,832-acre ACEC would help ensure maintenance of several rare/sensitive plant populations, unusual plant communities, and a representative stand of black cottonwood.

Sand Hollow ACEC

13. Designating this 3,332-acre ACEC would help ensure maintenance of several rare/sensitive plant populations, unusual plant communities, an area of geologic interest, and fragile soils.

Summit Creek ACEC/RNA

14. The unique spring-fed wetland ecosystem, associated rare plants, and special recreation values of the 304-acre ACEC would continue to be maintained. Actions to move the campground and manage recreation use in the riparian area where the plants occur would reduce the potential for degradation of habitat for alkaline primrose, a special status plant species.

Thousand Springs ACEC/RNA

15. Continuing designation would improve vegetation conditions and high value waterfowl habitat. Adjusting ACEC boundaries to include recently acquired lands with high wetland values (322 acres) and removing 53 acres from ACEC designation to facilitate an exchange for other high value wetland areas would (a) enhance the integrity of the ACEC and (b) allow more efficient implementation of management actions designed to improve habitat for waterfowl and other wetland wildlife species. New fence construction and old fence removal would enhance vegetation conditions and improve waterfowl habitat. Vegetation treatments, if utilized, would improve habitat for target species.

Other Direct/Indirect Effects, by Proposed RMP Section

Minerals

16. "No surface occupancy" and other leasable mineral stipulations that may be applied to leasable mineral exploration and development within existing ACECs would help to ensure that ACEC values would be maintained if leasable mineral development were to occur. Restricting mineral material sales to those that are consistent with ACEC values would help to maintain ACEC values. Requiring a "plan of operations" as an SOP for locatable mineral development would have some potential to help maintain ACEC values.

17. Closing the Malm Gulch/Germer Basin and Lone Bird ACECs to rockhounding, collection of mineral materials, and mineral material sales would help reduce the potential for damage to cultural resource values in the Lone Bird ACEC and paleontological resources in the Malm Gulch/Germer Basin ACEC.

Livestock Grazing

18. Planning and designing grazing management actions and other land use activities on important big game ranges (*e.g.*, Donkey Hills, Birch Creek and Cronk's Canyon ACECs) to ensure the viability of elk and bighorn sheep populations would prevent habitat alteration or disturbance from human activities.

19. Continuing to close the Sand Hollow ACEC to livestock grazing would help maintain rare plant populations and prevent erosion of fragile soils.

20. Management of livestock grazing in the Herd Creek watershed ACEC to meet objectives to improve riparian areas and reduce sediment delivery to spawning areas would contribute to the maintenance and improvement of resource values in this ACEC.

Fire Management

21. Decisions on the suppression of wildfires, the development of fire management activity plans, and fire suppression and rehabilitation specifications would help prevent the loss or degradation of ACEC values in the event of an unplanned wildfire.

Forested Areas

22. Closing acreage in the Cronk's Canyon, Malm Gulch/Germer Basin, and Herd Creek Watershed ACECs to commercial timber harvest and woodland product sales would reduce the potential for erosion, sedimentation, or other surface disturbance on ACEC values in those areas.

23. Closing suitable portions of the Jerry Peak WSA to commercial timber harvest and woodland product sales (if released from wilderness review) would reduce potential for soil erosion and sedimentation of anadromous fish habitats in the Herd Creek Watershed ACEC. Timber harvest stipulations in the Donkey Hills ACEC would help ensure that big game habitat requirements are maintained during timber harvest operations. Harvest methods would be designed to mitigate most effects on big game populations and habitat. Effects that may not be mitigated include temporary disturbance and displacement of big game from areas of active operations. Improvement of existing roads to support timber harvest activity may encourage increases in future recreation activity, with associated potential for disturbance and displacement of animals during periods when seasonal limitations on motorized vehicle use are not in effect.

Off-highway Vehicle Use

24. Limiting OHV use to existing roads, vehicle ways, and trails would reduce the potential for direct damage or degradation of ACEC values in all ACECs. This limitation would also reduce sedimentation of aquatic habitats, soil erosion, and human disturbance of wildlife.

25. In the Herd Creek Watershed ACEC, closing the existing road above the Herd Lake to motorized vehicle use would reduce motor vehicle access and help ensure that roadless-primitive values and high altitude plant communities are maintained.

26. Closing the Lone Bird ACEC to motorized vehicle use would protect resource values from surface disturbance and discourage vandalism of cultural resources. Physically closing about 3 miles of the existing Lone Pine Creek primitive road would provide added protection for resource values.

27. Continuing to close the Sand Hollow ACEC to motorized vehicle use would reduce the potential for erosion of fragile soils and help ensure that rare plant populations are not directly damaged by motor vehicle use.

28. Seasonal restrictions on motorized vehicle use and limiting motorized vehicle use to existing roads and trails in the entire Donkey Hills ACEC (29,706 acres) would help maintain productivity of big game populations by reducing disturbance and stress on animals during spring calving periods, fall hunting seasons, and critical winter periods.

Cumulative Effects

29. Resource values on private, State, National Forest and public lands adjacent to ACECs may be subject to degradation as a result of human land use activities. Designation of ACECs would result in the continued maintenance of these resource values within ACECs.

Biological Diversity

No Reasonably Foreseeable Effects to Biodiversity: No reasonably foreseeable effects to biodiversity are expected as a result of management decisions listed in the Proposed RMP under these sections: Air Quality, Hazardous Materials Management, Recreation Opportunities and Visitor Use, and Visual Resources.

Introduction: Biodiversity is the variety of life and interactions among species within the communities and ecosystems of which they are a part. Four primary levels of biodiversity (see ***Glossary***) include (1) *genetic diversity or population diversity* within a species; (2) *species diversity* (numbers of species or species richness and relative abundance of species within a given area or community); (3) *community/ecosystem diversity* (diversity of species associations, structural diversity within communities, and diversity of communities within larger ecosystems); and (4) *landscape/regional diversity* (the kinds, patterns and linkages of communities and ecosystems at the landscape or regional level).

Prediction of effects on biodiversity is complicated by the extreme complexity of relationships between the myriad of species, species groups and communities of living organisms that exist within ecosystems, and by limited understanding, scientific research and inventory data on (1) the biotic compositions of communities and ecosystems (*e.g.* numbers of species; variety and distribution of communities within the landscape), and (2) the biological functions and processes of species and their interrelationships within communities and ecosystems.

Adverse or negative effects on biodiversity (*i.e.*, loss or decline of diversity within the four levels described above) can occur in a number of ways. For example, biodiversity is adversely affected when natural plant or animal communities decline or are simplified through loss of structural diversity, through displacement or loss of native species, or through loss of habitats or plant communities that provide connecting links between major habitat types. Positive or beneficial effects on biodiversity occur when species diversity, abundance, natural distributions, and structural diversity of plant and animal communities are maintained or enhanced.

Summary of Effects

1. Management actions are expected to help maintain biodiversity at all levels. The expected gradual improvement of upland vegetation and riparian areas, stipulations on land use activities, and designation of 14 ACECs would contribute to the maintenance of biodiversity in the Resource Area. Consideration of effects on biodiversity during activity planning would help plan and design land use activities to minimize adverse effects.

Direct and Indirect Effects, by Proposed RMP Section

Areas of Critical Environmental Concern

2. Continued designation of seven existing ACECs and designation of seven new ACECs would highlight biotic values (*e.g.* rare plant species, plant communities and wildlife), protect a range of habitats for rare plant species, and help ensure mitigation of adverse effects on biodiversity during the planning and permitting of land use activities. Designating two of these ACECs for big game habitat values would emphasize the maintenance of native plant communities and landscapes upon which these big game

populations depend. Maintenance of abiotic ACEC values (*e.g.*, protection of cultural and paleontological resources) would indirectly help maintain biodiversity by protecting native plant and animal communities from surface disturbing activities.

Biological Diversity

3. Requirements to assess effects on biodiversity at the project and activity planning levels would enhance awareness of biodiversity, document an analysis process, and provide for consideration of effects on biodiversity from management actions. Ultimately, this process is expected to help protect biodiversity at all levels.

4. Formal assessment of patterns of biodiversity in the Resource Area, participation in neotropical bird work, identification of key species, development of biodiversity objectives and management strategies, and cooperative projects to assess and manage diversity would improve data on biodiversity in the Challis RA. Better data are expected to help protect biodiversity during consideration of land use activities.

Cultural Resources

5. Management decisions and actions to protect cultural resources from surface disturbance would indirectly help to maintain biodiversity by preventing disturbance of plant and animal communities that occupy cultural sites.

Fire Management

6. Fire suppression to protect high value vegetation resources, such as mountain mahogany, would help protect these sources of biodiversity from catastrophic wildfire. The designation of conditional suppression areas would allow for natural fires and more frequent fires that would result in a mosaic pattern of vegetation communities with different structures, species compositions, and seral stages. A more natural vegetation mosaic would maintain and enhance biodiversity. The use of prescribed fire to promote resource objectives would also promote biodiversity at the community and landscape level in the same manner as conditional suppression.

Forest Resources

7. Intensive management and potential harvest of 23,578 acres of commercial forest land would have potential for both positive and negative effects on biodiversity, depending on existing site-specific characteristics of the individual stands proposed for harvest, and on the design of site-specific timber management proposals. The decision to time forest stand management treatments to promote forest stand structure and diversity typical of all seral stages on a drainage basis would help maintain biodiversity by providing for a mix of seral stages and stand characteristics that would promote the existence of a diverse community of plants and animals dependent on forested habitats. However, timber harvest would have potential to simplify old growth stands in structure and overall species diversity. Species diversity is greatest when forested areas are characterized by a mix of old growth/mature and early successional stages. A patchwork of this mix, if it includes large, older forest patches, favors species adapted to both seral stage extremes and species adapted to the ecotones (edges) that occur between the extremes (Logan et al. 1985). When late-seral, large diameter forest stands are targeted for timber harvest, the large diameter tree

component is often removed, and the recruitment of large snag trees is limited or reduced. The reduced availability of groups or clumps of large live trees and the limited availability of snags can result in a decline of biodiversity on these sites. The PRMP design specification that requires leaving snags or cull trees in sale areas would help to mitigate this effect. However, timber management and harvest in stands that are decadent would have potential for positive effects on biodiversity if designed to promote a more open stand structure and the recruitment of large-diameter trees and snags.

8. Biodiversity is expected to be maintained on forested areas set aside from timber harvest to protect old growth forest and wildlife cover values, including forested areas in suitable portions of the Jerry Peak WSA (2,787 acres of forested area), suitable portions of the Burnt Creek WSA (250 acres of forested area), and on 980 acres in 41 small isolated forest stands throughout the RA. However, some potential would exist for loss of biodiversity in these areas as a result of (1) progressive stagnation of forested stands due to lack of natural fire or lack of timber management, and (2) potential loss of stands due to catastrophic fire.

9. If WSAs are released from wilderness review, up to 3,172 acres of commercial forest lands would be opened to harvest. Potential would exist for both positive and negative effects to biodiversity, as described in #7 above for decadent and large diameter stands, respectively.

10. Stipulations on the design and size of clearcuts in Douglas-fir and lodgepole pine stands would reduce the potential for adverse effects on biodiversity, because harvested areas would more closely mimic the diversity of uneven-aged forest stands. The abundance of species associated with closed canopy forest stands would likely decline in the area, and the abundance of species associated with forest edges, openings, and young seral stages would increase. Overall effects on biodiversity would depend on the distribution of existing seral stages and structural characteristics of forest stands in the area where harvest occurs.

11. Limitations on timber activities in riparian areas and the 50-foot timber harvest buffer around springs, seeps, bogs, and streams would contribute to the maintenance of structural diversity in riparian areas around these sites.

12. Comprehensive inventory of timber stands would allow planning and management of forest stands (including timber harvest) to minimize adverse effects on old growth and other forested area values.

13. Design specifications for timber harvest and seasonal harvest restrictions would protect many special wildlife and plant habitat areas (springs, ponds, raptor nest sites, etc.) from direct disturbance by forest management activities. Design stipulations on timber harvest within important elk habitat areas would help to maintain the structural biodiversity of these habitats.

14. Artificial regeneration of harvested forest lands with genetically diverse seeding stock would help maintain the genetic diversity of Douglas-fir and lodgepole pine populations in the locality of the planted areas.

15. Stipulations on tree cutting in riparian areas would help maintain structural diversity in riparian areas, and maintain large trees and snags that would support the presence of species dependent on this habitat component.

Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, Riparian Areas

16. Management decisions listed under Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, and Riparian Areas would help maintain biodiversity by protecting and enhancing plant and animal habitats. Actions related to the management of livestock grazing in riparian areas, maintenance of water quality, and maintenance of instream flow would help maintain and enhance biodiversity by improving the structural diversity of riparian and wetland plant communities, ensuring the availability of water to maintain these communities, and helping to maintain the connectivity of aquatic habitats.

Land Tenure and Access

17. Some potential would exist for site-specific declines in biodiversity on public lands that are transferred out of Federal ownership; these effects on biodiversity would depend on subsequent use and management of those lands. Potential would also exist for acquisition of lands with high biodiversity values and subsequent protection of those values. Stipulations and restrictions on land disposals, and the requirement for project-level biodiversity analysis would help maintain biodiversity. Based on the limited number of acres that would be transferred out of Federal ownership, existing levels of biodiversity in the RA are expected to be maintained.

18. Rights-of-way authorizations would have potential for site-specific loss or displacement of plants and animals due to surface disturbance and associated activities. Stipulations and restrictions on rights-of-way would help limit surface disturbance and effects on biodiversity. Resolution of agricultural trespass may result in site-specific, small losses of biodiversity on lands transferred out of Federal ownership. Termination of new trespass and emphasis on acquiring lands with equal or greater resource values in land exchanges would help maintain biodiversity. Overall potential for adverse effects on biodiversity would be limited because the number of acres involved in these lands actions would be small. Existing levels of biodiversity in the RA are expected to be maintained.

Livestock Grazing

19. Livestock impacts on plant genetics, invertebrate animals, lichens, fungi, and ecosystem processes are mostly unknown (Cooperrider, 1990). However, continued livestock grazing use is unlikely to result in any loss or decline of biodiversity below current levels in the RA. On small, highly localized sites where livestock grazing use is typically the heaviest (*e.g.*, water developments, pasture corners, or around springs and seeps) plant communities are likely to remain in early-seral stages or poor vigor. Plant and animal species diversity, abundance, and structural diversity are often lower

in early-seral plant communities than on sites in mid to late-seral condition. Grazing is also likely to reduce the abundance of some animal species that are dependent on tall herbaceous cover as an important habitat component. However, implementation of knowledgeable and reasonable grazing management practices and other grazing use criteria are expected to move early and mid-seral plant communities toward mid and late-seral stages on many sites, particularly in riparian areas. Animal and plant species richness and the overall structural diversity of the plant community are expected to increase on these sites. Grazing of herbaceous vegetation would reduce fine fuels and limit the frequency and extent of natural fires in the RA. Reduction of fine fuels and fire frequency would promote higher shrub densities and shrub cover on many sites and limit the spread of natural fires from sagebrush-grass communities into adjacent forested areas. Most of the effects of grazing use on biodiversity, both positive and negative, would remain unknown due to the complexity of interrelationships between grazing use and plant/animal communities, and the limited availability of scientific studies and inventory data.

Minerals

20. Mineral development and exploration activities would result in site-specific loss or displacement of plants and animals due to surface disturbance and associated activities. Stipulations and restrictions on mineral development activities would help limit the amount of surface disturbance and site-specific loss of biodiversity. Surface disturbance and other activities associated with existing and future mineral development and exploration activities are expected to be limited in extent, and no significant loss of biodiversity is expected.

Noxious Weed Infestations

21. Decisions on management of noxious weed infestations would help maintain biodiversity by controlling the spread of weeds that would otherwise displace native species and result in localized declines of species diversity. Potential for widespread decline in biodiversity due to widespread invasions and displacement of native plant species would also be reduced. The management decisions and standard operating procedures relevant to noxious weeds would also reduce the potential for site-specific decline of biodiversity from loss or decline of nontarget plant species as a result of noxious weed control methods.

Off-Highway Vehicle Use

22. Limitations on off-highway vehicle use would help maintain biodiversity by limiting damage to plant communities and individual plants. Limitations would also help prevent disturbance and displacement of wildlife during critical periods, thus maintaining the suitability of the area to support wildlife populations. Authorized off-highway-vehicle use is unlikely to have any reasonably foreseeable effects on biodiversity.

Rangeland Vegetation Treatment Projects

23. Determining the priority and need for vegetation treatment projects during watershed assessment would ensure that treatments are considered in an overall ecosystem context. Vegetation treatments that are designed to minimize disturbance of the natural plant community would minimize

potential for adverse effects on biodiversity. Vegetation treatments that result in significant disturbance or alteration of native plant communities (e.g., plowing and seeding projects) would likely result in a site-specific decline of community and species diversity in the local area of the treatment. However, vegetation treatments are not expected to occur over extensive areas, and overall biodiversity would be maintained in the RA.

Special Status Species

24. Project level field inventories of special status species would provide distribution data on special status species (an important biodiversity data element). Requirements to assess effects on special status species at project and activity planning levels would enhance awareness of biodiversity, provide documentation of an effects analysis, and lead to consideration of effects from management actions on special status species and thus biodiversity.

25. Developing species management plans and cost-share partnerships, promoting the conservation of important special status plant and animal species, and mitigating any adverse effects on special status species would contribute to the maintenance of biodiversity in the RA.

26. Development of species data files on sensitive amphibians, reptiles, insects, and non-vascular plants would help fill data gaps on species richness and community composition in the Resource Area. This would contribute to knowledge about biodiversity in the RA and promote land use decisions that mitigate adverse effects on biodiversity.

Wildlife Habitat

27. Wildlife habitat management actions are expected to help enhance and provide data on biodiversity. For example, (a) wildlife species and habitat inventories would provide data on biodiversity; (b) constructing exclosures and riparian pasture fences would help protect and enhance the quality and structural diversity of riparian habitats, and maintain or improve community diversity; (c) re-establishing native species in historical habitats would increase species diversity and diversity of species inter-relationships; (d) prescribed burning would enhance ecosystem/landscape diversity; (e) implementing the Chilly Slough project would help maintain and improve an extensive area of wetland that supports the most diverse wildlife community in the Resource Area; (f) establishing nongame bird studies in each major habitat type would contribute to knowledge of avian species and communities associated with major vegetation types; (g) implementing design specifications to buffer and protect special wildlife habitats would help to maintain these habitats and the associated plant and animal species; (h) designing and managing land use activities to ensure the viability of bighorn sheep and elk populations in certain key habitats would help maintain these populations; and (h) providing wildlife water at key livestock water facilities would maintain wildlife use in areas that would otherwise be unsuitable.

Wild Horses and Burros

28. Grazing by wild horses is likely to maintain early and mid-seral communities in areas where wild horse use is typically heaviest (*e.g.*, some riparian areas and preferred upland sites). Effects on biodiversity would generally

be the same as described above for livestock grazing (see #19) on sites where heavy wild horse grazing occurs.

Wild and Scenic Rivers

29. Management to maintain outstandingly remarkable (OR) values and free-flowing character in Wild and Scenic River (WSR) corridors of segments found eligible for further study or suitable for WSR designation would help maintain biodiversity along those corridors, and help maintain the connectivity of aquatic habitats.

Wilderness Study Areas - Management if Released

30. Some potential would exist for loss of biodiversity on forested sites in WSAs if released from wilderness review as a result of (1) progressive stagnation of forested stands due to lack of natural fire or lack of timber management, or (2) loss of stands due to catastrophic fire.

31. Potential would exist for both positive and negative effects on biodiversity from timber harvest on those WSAs that are released from wilderness review and would be subject to timber harvest. Effects of timber harvest on biodiversity are described above under "Forest Resources," #7, 10, 11, 13, and 14.

Design Specifications

32. Ground-disturbing activities could lead to localized declines of biodiversity through damage to vegetation, potential invasion of noxious weeds, potential spread of weeds to adjacent native vegetation communities, and displacement of native plant species. Design specifications for ground disturbing activities and other resource uses (*e.g.*, use of suitable seed mixes for reseeding disturbed areas, monitoring of disturbed areas, limitations on road construction, and use of a variety of forb and grass species in vegetation treatments/seedings) would help maintain biodiversity and reduce the potential for site-specific declines of biodiversity.

Cumulative Effects

33. Cumulative effects from actions on adjacent private, state and National Forest lands may include (a) some loss of genetic variation if populations or subpopulations of rare species decline; (b) loss of site-specific species diversity if individual populations disappear from some areas; and (c) a gradual decline of community and ecosystem diversity due to simplification of plant communities. Actions contributing to these adverse effects would include a lack of biodiversity information upon which government agencies base management decisions, and loss of biodiversity on private lands due to existing land uses and future development. Interagency implementation of ecosystem management actions (*e.g.*, ecosystem analysis at the watershed scale, interagency development of activity plans) would have the potential to mitigate adverse effects on biodiversity, and may enhance biodiversity on some sites.

Cultural Resources

No Reasonably Foreseeable Effect to Cultural Resources: No reasonably foreseeable effects to cultural resources would be expected from decisions listed under the following PRMP sections: Air Quality, Biological Diversity, Fisheries, Hazardous Materials Management, Minimum Streamflow, Noxious Weed Infestations, Paleontological Resources, Riparian Areas, Special Status Species, Transportation, Tribal Treaty Rights, Upland Watershed, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released, and Wild and Scenic Rivers.

Mitigated Effects - Standard Operating Procedures: Intensive Class III cultural resource inventories would be conducted for all ground disturbing project activities or before the sale or transfer of lands from Federal ownership. The BLM would consult the SHPO and Advisory Council on Historic Preservation on all projects which have the potential to affect cultural resources. Overall, BLM actions would be designed to have no adverse effects on historic properties through the use of avoidance, data recovery, and project abandonment. However, while every effort is made to identify and evaluate historic properties prior to ground disturbing activities or land transfers, not all cultural resources can be identified during Class III inventories. For example, prehistoric sites which are buried under the ground surface can be missed during project inventories. Therefore, any ground disturbing activities or land transfers could have a potential adverse effect on cultural resources.

Specific effects to cultural resources are described below.

Summary of Effects

1. Management actions would generally reduce the amount of potential damage to cultural resources caused from ground disturbing activities and vandalism. Integration of cultural resource issues into watershed assessments and integrated resource activity plans would help bring cultural resources into the broader resource management framework. This planning direction may be one of the single factors which could help protect and manage cultural resources in the future. Positive efforts to manage and protect cultural resources would include (a) designating the Lone Bird ACEC, (b) developing a cultural resources overview and integrated resource activity plans for the RA, (c) annually conducting a minimum of 550 acres of Class III non-project intensive inventory, (d) developing a patrol plan for deterring site looting and vandalism, (e) protecting Native American grave sites, (f) developing a comprehensive study of rock art, (g) interpreting specific sites in the RA, and (h) conducting an ethnographic inventory project.

Direct and Indirect Effects, by Proposed RMP Section

Livestock Grazing/Rangeland Vegetation Treatment Projects

2. Existing consumptive allocations for livestock grazing would result in a continuing need to build new, and improve current, rangeland facilities. Cultural resources would need to be protected from any ground disturbing projects which could jeopardize their integrity and eligibility to the National Register of Historic Places (NRHP). Long term adjustments in stocking rates could result in fewer impacts to cultural resources from livestock trampling and artifact displacement.

3. Revising existing AMPs through the development of watershed assessments and integrated resource activity plans would help to fully integrate cultural resource management with livestock grazing and other land use and resource issues.

4. Prescribed burns and seeding projects conducted over the life of the RMP could create ground disturbance, causing direct impacts to prehistoric and historic sites within the RA through loss of site integrity. Impacts to cultural resources would depend on the number of acres being treated.

5. Excluding livestock from areas of known human burials would protect these areas from damage due to trampling.

Wildlife Habitat

6. Developing and maintaining wildlife habitat improvement projects on up to 90,000 acres could affect cultural resources located within the project areas. Many of these developments would be located in areas that have a high probability for cultural resources to be present. Since they are usually ground disturbing projects, these projects could cause artifact displacement and loss of site integrity.

Fire Management

7. Full fire suppression in some areas (to protect property and high value resources - see *Map 23: Fire Control*) would help protect known cultural resources such as historic structures and rock art sites. Where fire suppression occurs, the identified restrictions on fire suppression practices would generally decrease the amount of damage caused to cultural resources from fire fighting techniques. Over the long term, and on RA lands for which a conditional suppression activity plan is developed, a conditional fire suppression strategy would (a) allow more acres to burn in small fires, eventually reducing the risk of severe fires and associated damage to cultural resources, and (b) decrease the acreage with known or possible cultural resources which could be damaged by fire suppression practices.

Floodplain/Wetland Areas

8. Developing water holes and spring sources as needed could directly affect significant cultural resources. Many springs in the RA have prehistoric sites associated with them that are either eligible for listing or listed in the National Register of Historic Places. Developing these water sources could directly affect their integrity and jeopardize their eligibility to the NRHP. However, using pipelines and troughs to keep livestock and wildlife away from the spring source would help protect fragile cultural resources located adjacent to the water source. Excavation of the pipeline and other developments could disturb existing archaeological deposits.

Land Tenure and Access

9. Any transfer of land from Federal ownership to private ownership could directly affect known or possible cultural resources. Under Federal ownership, legislation (*e.g.*, National Historic Preservation Act of 1966; Archaeological Resources Protection Act of 1978) is designed to protect cultural resources from looting and project impacts causing loss of resource integrity. When lands containing cultural resources are transferred to private ownership, no protection is afforded the cultural resource unless restrictions

(*e.g.*, conservation easements) are established before the land is transferred. Lands which contain Native American burials and sacred or religious sites would not be transferred from Federal ownership, and therefore would continue to be protected by Federal laws. Since Federal laws protect these resources on Federal land more than on private land, there would be less chance of these areas being disturbed.

10. Actions resulting from the issuance of rights-of-ways, communication sites, special use permits, and leases could cause adverse effects to cultural resources. Many of these actions produce ground disturbance, which affects artifact provenience and site integrity. The presence of communication sites and other intrusions could produce visual impacts which may affect traditional cultural properties and religious sites significant to Native American groups.

Areas of Critical Environmental Concern

11. Designating the Lone Bird ACEC would help protect important cultural resources in that area. Developing a land use activity plan and closing the ACEC to motorized vehicle use, rockhounding, and mineral material collection and sales would protect cultural resources from illegal artifact collecting and surface damage.

Forest Resources

12. Timber harvest and associated road construction on 23,578 acres of commercial forest land could impact cultural resources through ground disturbing activities which disturb artifacts and site integrity. Buffer zones around water sources would increase the protection of areas with a high likelihood of cultural resources. Cultural resources would be protected from the surface disturbance effects of timber harvest in areas withdrawn from timber harvest. Helicopter logging restrictions in the Lone Pine Peak area (and whenever applied elsewhere) would also reduce surface disturbance impacts to cultural resources.

Minerals

13. Based on historical records and low potential for occurrence of hydrocarbon minerals or geothermal resources, little or no oil, gas, or geothermal energy development would be expected in the RA during the life of the RMP. Current allocations of acres for fluid energy development would be expected to have little or no effect on cultural resources. Mandatory no surface occupancy stipulations in some areas would further reduce the probability that exploratory drilling or development would adversely affect cultural resources.

14. The majority of the RA would be open to mineral material disposals, nonenergy mineral leasing, and locatable mineral exploration and development. These activities generally involve ground disturbance, so effects to cultural resources could occur through artifact displacement and loss of site integrity. Although measures could be taken on a case-by-case basis to help mitigate impacts to cultural resources, it would be difficult to change project boundaries to avoid impacts. Restrictions on mineral development in the following areas would reduce or eliminate the potential for impacts to

cultural resources in those areas: (a) NSO stipulations or closures in some riparian areas would help protect cultural resources in areas where they are likely to occur. (b) Closing the Lone Bird ACEC to rockhounding, collection of mineral materials, and mineral material sales would help protect known cultural resources from surface disturbance and vandalism. (c) Areas of human burials would be fully protected from project disturbances.

Recreation Opportunities and Visitor Use

15. Increasing the number of developed campgrounds would increase ground disturbing activities associated with facilities construction and maintenance. Ground disturbance may adversely affect cultural resources by disturbing artifacts and site integrity.

16. Developing a comprehensive interpretive plan for the three SRMAs would allow for interpretation of cultural resources in those areas, thereby increasing the public's awareness of the importance of cultural resources located on public lands.

Off-highway Vehicle Use

17. Designating the entire Resource Area as "limited" to existing roads, vehicle ways, and trails yearlong, and establishing additional limitations or closures on specific areas, would help protect cultural resources from (a) damage due to the erosion and displacement of artifacts caused from OHV use, and (b) vandalism and illegal artifact collecting caused by increased human access. Areas closed to OHV use (especially the Lone Bird ACEC) would have less potential for damage (erosion and surface disturbance) to known or possible cultural resources. The vehicle size limitations for the Shay Line Trestle would help slow down deterioration of the trestle.

Cultural Resources

18. Developing a cultural resource overview and integrating cultural resources in watershed assessments and integrated resource activity plans for the RA would help to (a) identify significant trends in the history and prehistory of the area, (b) identify areas which may need special designation in the future (*e.g.*, ACECs), (c) provide important information on areas where additional protection measures need to be taken, (d) identify interpretation opportunities for cultural resources, and (e) guide management on specific areas, such as the Salmon River Corridor and the Challis Archaeological Spring District.

19. Conducting a minimum of 550 acres of Class III non-project intensive inventory annually would increase understanding of the prehistory and history of the RA.

20. Developing a plan for regularly patrolling sites, as well as physically closing one-half mile of the Devil's Canyon Road, would help to reduce impacts from illegal artifact collecting and vandalism.

21. A comprehensive study of rock art locations would provide (a) a data base for evaluating rock art sites in the region, and (b) information on potentially sensitive areas that need special protection measures.

22. Existing interpretation would continue and be expanded by developing interpretive materials for specific sites within the RA. Interpretation would help preserve and protect sensitive sites by fostering an appreciation for the importance and value of cultural resources.

23. Conducting an ethnographic inventory project for the RA would provide information needed to identify, manage, and protect cultural resources with high Native American traditional cultural value, such as areas of religious significance and traditional cultural use.

24. Closing the Lone Bird ACEC to rockhounding, mineral material collection and sales, and motorized vehicle use would help protect cultural resources from continued erosion, vandalism, and illegal artifact collecting.

25. Protection of Native American burial areas is extremely important to Native American groups. Retaining these lands in public ownership and applying no surface occupancy stipulations and livestock grazing and mineral entry closures would help protect these sacred areas from ground disturbing activities, vandalism, and illegal artifact collecting.

Cumulative Effects

26. Mitigation of effects to cultural resources on adjacent USFS lands could have a cumulative benefit to cultural resources on BLM lands by increasing protection of cultural resources in east-central Idaho and providing an opportunity to piece together the prehistory and history of the entire region.

Private land development along rivers and other areas with high potential for cultural resource sites may lead to cumulative loss of cultural resource sites and loss of opportunity to study these areas as part of the overall history and prehistory of east-central Idaho. These losses make protection of cultural resources on Federal lands (USFS/BLM) even more vital.

Lady's shoe - leather
Yankee Fork - Sunbeam Mine
Probably circa 1880-1890

Economy and Society

Introduction: The RMP economic and social analysis considers effects to two geographical areas: the Fort Hall Indian Reservation and the Custer-Lemhi counties two-county region (see *Map 20: Economic and Social Analysis Regions*). The analysis does **not** consider economic or social impacts to communities which lie outside the Reservation or the two-county region, or impacts to the State or national economies.

Economic and Social Analysis - Fort Hall Indian Reservation

Under the *Treaty with the Eastern Band Shoshone and Bannock, 1868*, members of the Shoshone-Bannock Tribes retain the right to hunt, fish, and gather natural resources from unoccupied lands of the United States, including public lands in the Challis Resource Area. As a Federal land managing agency, the BLM has the responsibility to identify and consider the potential impacts of BLM plans, projects, programs, or activities on the natural resources and their habitats which are "entrusted" to United States management to provide for tribal treaty rights (see *Glossary*: trust resources) .

The economy of the Fort Hall Indian Reservation is probably tied to natural resources from the RA in two ways. First, tribal members may exercise their treaty rights to hunt, fish, and gather natural resources in order to obtain food or other natural resources for personal subsistence. Second, some tribal members may use resources hunted for or gathered in the Resource Area such as furs, hides, porcupine quills, or willows to craft "value-added" products for cash sale at the Reservation's Trading Post or other merchandise outlets. It is difficult to estimate the Reservation economy's dependence on Challis Resource Area resources, since the Tribes were unable to provide detailed estimates of how much their members use resources in the Challis Resource Area (frequency of visits; quantity of natural resources hunted, fished, or gathered; priority locations for hunting, fishing, and gathering; proportion of natural resources which contribute to tribal members' annual subsistence; etc.).

Management decisions proposed in the PRMP would generally be expected to improve the habitat quality, and possibly also the quantity, of natural resources known to be of interest to the Shoshone-Bannock Tribes (big game, resident and anadromous fish, various plant species). (Because the BLM manages wildlife and fisheries *habitats*, but not wildlife or fisheries *populations*, the BLM has no control over the **quantity** of big game or fish species which would be available for the Tribes to hunt or fish.) Thus, the Challis Resource Area would be expected to contribute to subsistence and value-added product cash sales in the Reservation economy at the same level or an improved level, as compared to the existing situation (see ***Chapter 3*** - Economy and Society). Likewise, proposed management of the Challis Resource Area under the PRMP would be expected to maintain or improve the condition of resources which are known to be important to the Shoshone-Bannock Tribes' culture.

Economic Analysis - Custer-Lemhi Counties Two-County Region

The economic analysis for the Custer-Lemhi counties two-county region contains both a *quantitative* assessment, based on the Custer-Lemhi County Economic Model (CLEModel) and Idaho Fiscal Impact Projections Model (IFIPM) (BLM 1994), and a *qualitative* assessment, based on the professional judgement of the Idaho BLM Economist and the Challis RA specialists for the affected resources (*e.g.*, livestock grazing, forest resources).

The *quantitative* analysis incorporates the results of a regional socio-economic study, and utilizes economic modeling concepts for regional input/output analysis and county fiscal analysis. The accuracy of the projections generated by the economic and fiscal models depends on (a) the baseline data used to formulate and represent current local/regional economic conditions (data were collected locally when possible), (b) projections of future natural resource conditions and community-based development, and (c) the accuracy of the economic and fiscal relationships generated for the model. A quantitative assessment is only presented when data were available to be input in the economic models (*e.g.*, changes in AUMs). The projections stated in this analysis should be viewed as **trends and general expectations**. This does not mean the model is unreliable or ineffective, only that it assumes that the baseline information, interrelationships defined in the model, and the data to be evaluated are as accurate as possible. Computer runs for the quantitative analysis are filed in the RMP Planning Record, and a summary of the quantitative analysis is presented in *Table 4-1*. A full discussion of the models' methodologies and limitations is contained in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties: And Models* (BLM 1994).

A qualitative analysis is also included for all economic sectors, because qualitative changes to natural resources (*e.g.*, forage quality, visual aesthetics) can affect the regional economy. Qualitative assessments are derived from related resource analyses for the PRMP (see relevant sections of ***Chapter 4***, such as Livestock Grazing; Minerals; Forest Resources; Recreation Opportunities). The qualitative assessments provided below are subjective, but based on the RMP interdisciplinary team's best professional judgement.

In general, local economic growth for both Custer and Lemhi counties is expected to be slow to moderate during the next few years, and depend on the number and kinds of new industries that locate in this rural region of the State. The rate of growth or decline is highly dependent on regional, national, and international economic conditions which trigger "boom" or "bust" cycles in the timber, mining, or agriculture industries. Under current conditions, expansion of existing industries within the region is not expected to be significant enough to have a substantial influence on economic growth. Two features of economic change will likely have the greatest impact on future growth: a recent and probably continued influx of retirees, and modern telecommunications technology which has allowed cottage industries to become feasible in rural areas. Expected changes in the regional economy and population will affect the future demand for and use of public land resources.

Summary of Effects to the Regional Economy

1. **Quantitative Impacts:** Quantitative impacts to the regional economy would be negligible (<1% decrease) (see *Table 4-1* and *Table 4-2*). Quantitative impacts to the agriculture sector would be slightly negative, but significant only for the Pahsimeroi subregion (*i.e.*, negligible for the other subregions). Quantitative impacts to the timber sector would be slightly positive (assuming harvest up to the average decadal allowable harvest level), but not significant. Effects to the local government sector would be slightly negative, but not significant.

   Qualitative Impacts: PRMP actions would improve forage quality and quantity, sustained timber productivity, and the quality and quantity of recreational opportunities in the RA. Sustained improvement and a predictable quantity/quality of these resources would likely benefit the regional economy to an unknown extent, particularly the subregions dependent on agriculture, timber harvest, or tourism. However, PRMP actions could also increase livestock permittees' and logging operators' costs and efforts, so less net benefit to the regional economy may occur in the timber sector and no net benefit may occur in the agriculture sector.

Direct/Indirect and Cumulative Effects to the Regional Economy, by Economic Sector

Agriculture Sector

2. **Quantitative Impacts:** Changes to the agriculture sector (due to a maximum estimated 12,658 AUM (25%) reduction in livestock allocations) would include negligible (<1%) decreases in regional population, employment, baseline sales, and baseline earnings (see *Table 4-1: Quantitative Impacts*). The Pahsimeroi subregion would experience slight to moderate decreases (about -2.5%) in employment, baseline sales, and baseline earnings. Changes in the other subregions would not be significant (0.0 to 0.9%).

   Qualitative Impacts: In the long term, PRMP actions would improve forage quality and quantity for livestock; this could benefit livestock production and ranch profitability. However, various PRMP requirements (*e.g.*, stubble height and upland cover criteria, riparian and aquatic habitat objectives, maintenance of range improvements, protection of regeneration in harvest units) would constrain livestock management and could increase permittees' costs and efforts to manage their livestock while on BLM public lands (in addition to producing estimated AUM reductions - see above).

   The BLM recognizes that local economic market forces may attach "value" to the AUMs associated with a grazing permit, for market activities such as (a) collateral for a loan, or (b) transfer of the permit during sale of ranch property. As a result, some economic impact to ranch real estate market values may occur because of projected AUM reductions. However, these impacts are not quantifiable given the information currently available. (**Note:** Although the local real estate market may appear to give a "value" to public land grazing *privileges*, the Department of Interior - Bureau of Land Management has codified the position that any capitalized value associated with the grazing permits has no legal or compensable basis: "So far as consistent with the purposes and provisions of this [Taylor Grazing] Act [of 1934], grazing privileges recognized and acknowledged shall be adequately safeguarded, but the creation of a grazing district or the issuance of a permit pursuant to the provisions of this Act *shall not create any right, title, interest, or state on or to the lands* [emphasis added].")

Other factors outside BLM control, such as the availability of USFS lands for grazing and the subdivision of private ranch lands for residences (and subsequent loss of private hay and pasture lands), may affect the agriculture sector more than RMP actions.

Timber Sector

Note #1: Decreases in commercial timber average annual allowable harvest levels proposed in the PRMP would be very unlikely to have an adverse economic effect, since (a) historically (1955 to present), the *maximum* yield ever offered in a year (440 MBF) was only 47% of the current annual allowable harvest level (922 MBF), (b) during the last 10 years only 555 MBF have been sold in the Challis RA (approximately 6% of the decadal allowable harvest level (9.22 MMBF)), and (c) the mill in Salmon had not purchased timber from the Challis RA for 8 years. Most timber sold from the RA is in small sales, which are purchased by small operators and mills in the Challis area. For the past 6 to 7 years, the Challis RA timber program has focused on backlog regeneration projects. Most of those projects have been completed, and the RA now anticipates a shift in emphasis toward commercial timber sales. One sale of approximately 230 MBF was offered in 1994 and harvested in the summer of 1995.

Note #2: This analysis of impacts to the timber sector uses 1991 baseline data and does not reflect closure of the Salmon Intermountain sawmill in 1995. However, even though the sawmill accounted for a proportion of the timber-related business in Lemhi County (about 50 jobs), it is unlikely that the mill's closure would affect this PRMP analysis. As stated in Note #1 above, the mill in Salmon had not purchased timber from the Challis RA in the recent past and did not rely on a supply of timber from the Challis RA.

3. **Quantitative Impacts:** Compared to the existing condition, where only 6% of the allowable harvest level has been sold in the past decade, RMP direction to allow up to 6.60 MMBF per decade could result in a very slight economic benefit to the timber sector, if the allowable harvest level is offered, sold, and harvested. The *maximum* economic benefits possible would include negligible (<1%) increases in regional population, employment, baseline sales, and baseline earnings (see *Table 4-1: Quantitative Impacts*). Economic benefits would vary from the projected maximum, depending on the actual volume sold and harvested in a given year. The projected benefits would be most likely to occur in the Salmon subregion, which has the majority of current employment associated with the timber sector (93% of 314 full-time equivalents (FTE)).

   Qualitative Impacts: Under PRMP management, the commercial timber base could realistically be managed for sustained yield. In the long term, various PRMP actions (*e.g.*, use of prescribed and natural fire) may improve the health and vigor of commercial forest lands, thereby improving timber quality and volume. However, various timber harvest requirements (*e.g.*, helicopter logging in some areas, clearcut size limits) may increase logging operators' costs and decrease their profits. If the cost of logging exceeds the value of the wood offered, harvest units offered for sale may not sell. This could decrease employment opportunities for loggers and the supply of timber to local mills by an unknown amount. Reductions in the acreage of woodland managed for wood products (*e.g.*, firewood) may affect the availability of those products on a seasonal basis, since lower elevation BLM lands are accessible for a longer period of time than adjacent USFS lands which have an abundant supply of similar products; however, these effects are probably not significant.

Mining Sector

4. **Qualitative Impacts:** Mining activities within the region are primarily affected by factors beyond the BLM's control (*e.g.*, mineral commodity prices; mining laws and regulations; mining technology). PRMP actions would not be expected to constrain mineral development, except in a few riparian areas or eligible/suitable Wild and Scenic River corridors with high or moderate potential for locatable minerals (see ***Chapter 4*** - Minerals). In those areas, restrictions on locatable mineral entry could increase development costs if locatable mineral development occurs. (Currently, there is no development activity in those areas.) Any other changes ("boom" or "bust") to the local economy because of activity (or inactivity) in the mineral sector would result from external factors. Some PRMP restrictions on mineral material activity could limit new mineral material site development. However, an insufficient supply of mineral materials is unlikely, because numerous alternative sites are available in the RA. If a reduced supply did occur, this could increase the profitability of mineral material development on private lands.

Tourism Sector

Note #1: This economic analysis generally considers effects of RMP actions on the "tourism" sector - namely, businesses associated with visitors to the area. This is because the "tourism" sector was studied in the Social, Economic, and Fiscal Analysis of Custer and Lemhi Counties (BLM 1994). However, it is acknowledged that recreation use of the Challis Resource Area by local residents also affects the local economy.

Note #2: Tourism activities within the region depend on the quality and quantity of natural resources. Although the quantitative economic value of RMP actions to businesses associated with visitors to the area cannot be calculated, various recreation-related studies indicate that high quality visual (scenic), wildlife, and fisheries resources are historically associated with substantial visitor use of the area and associated expenses for food, beverages, lodging, transportation, guide services, boat rentals, fishing tackle, souvenirs, hunting and fishing permits, etc. (Idaho Travel Council 1989; Harris *et. al.* 1988). (Also see *Appendix B, Item 7: Economic Values of Select Wildlife Species*; ***Chapter 3*** - Fisheries, "Tribal and Sport Fishing;" and *Appendix B, Item 6: Economic Values of Fisheries Resources in the Challis RA.*)

5. **Qualitative Impacts:** Various actions would improve the quality and quantity of tourist attractions and accommodate some of the increased recreation demand. For example, wildlife actions would improve wildlife habitat, and thereby improve wildlife viewing opportunities and (possibly) big game, upland game, and waterfowl hunting opportunities (depending on IDFG wildlife population management and hunting regulations). Recreation

site development and new or expanded SRMA designations would accommodate some of the anticipated increase in recreation use. Visual resource management actions and OHV use limitations would maintain or improve the scenic values of the area. Actions to improve resident and anadromous fisheries could improve fishing opportunities for harvestable species. Other actions would improve water quantity and quality for various recreational pursuits. Cumulatively, these beneficial effects to recreational opportunities would, to an unknown extent, benefit visitor spending patterns and the local economies which depend upon tourism (primarily the Stanley and Salmon subregions). OHV use limitations may, to an unknown extent, decrease local expenditures by visitors who had previously enjoyed off-road vehicle use in the Challis RA. It is not expected these reduced expenditures, if they occur, would be significant.

Government Sector

Note: Because this is a local (two-county) economic analysis, the analysis of effects to the government sector only considers the effects of RMP actions on local (county) government. Quantitative impacts were projected from the Idaho Fiscal Impact Projections Model (in BLM 1994), using the changes in employment and population projected by the CLEModel for the quantitative analysis of the timber and agriculture sectors (see above and *Table 4-2*).

6. **Quantitative Impacts:** Tax revenues, payments-in-lieu-of-taxes (PILT), and expenditures for the two-county region and Custer County would decrease negligibly (<1%). In Lemhi County PILT would remain the same and tax revenues and expenditures would increase negligibly. None of these changes would be significant (see *Table 4-2*). No net changes in tax revenues would be expected from BLM acquisitions of private land (see PRMP, Land Tenure and Access, Goal 2, #1).

Social Effects - Custer-Lemhi Counties Two-County Region

The social analysis considers how (or whether) PRMP actions would affect the society of the two-county area. The "Social Profile of Seven Communities in Custer and Lemhi Counties, Idaho" (Aaron Harp, *et.al.* in BLM 1994) is used as the "existing condition" for the local society (see ***Chapter 3*** - Economy and Society). The social profile has limitations which stem from the research methodology; for example, the study used unstructured personal interviews and the "snowball referral method" rather than a random sample of respondents). As a result, this social analysis is very general, and only strives to indicate trends toward change which may occur to the local society as a result of BLM actions.

PRMP actions would be expected to continue to provide good quality air, water, visual/aesthetic/scenic, and recreational values for local populations.

In general, factors which affect the regional economy would also affect the regional society, since the economy is one fundamental institution of society (other social institutions include kinship (family), religious, and political systems), and PRMP actions would not be expected to affect other social systems. According to the socio-economic study of the two-county region (BLM 1994), the local society is characterized by the local economy, especially in subregions which primarily rely on one or two economic sectors. For example, (1) Leadore and May, Idaho are nearly totally dependent on agriculture as their economic base, and agriculture-related activities define the social character of those areas; and (2) tourism influences the economic and social character of the Stanley subregion.

The PRMP would continue to (at various levels) accommodate the continued operation of the predominant economic activities which utilize Challis Resource Area lands or resources: agriculture (livestock grazing), timber harvest, minerals development, and recreation use. PRMP actions would be expected to sustain or enhance non-commodity resource values for future generations, while nearly maintaining existing levels of commodity uses. The PRMP would also improve the recreational values upon which the tourism sector depends.

The social effects of these economic impacts would occur over time, and depend on a subregion's reliance on a particular resource from BLM lands. Changing conditions of recreation values would primarily affect the society of the Stanley and Salmon subregions, changing conditions in the timber sector would mostly affect the Salmon subregion, changes in the agriculture sector would primarily affect the Pahsimeroi, Big Lost, and Challis subregions, and changes in the mineral sector would mostly affect the Challis subregion. Specific social impacts of PRMP actions cannot be predicted, based on available data. Equally unpredictable is whether social impacts of PRMP actions would be mitigated (or exacerbated) by social and economic trends outside the BLM's control (for example, national or international commodity prices). General examples of social impacts of BLM actions may include changing patterns of in- and out-migration (based on increased or reduced employment opportunity); changing patterns of employment and business development (as employment and business opportunities diminish in one occupational category, the affected people may pursue other occupations and business ventures locally); increased conflict with other residents (and possibly visitors), as competition for available resources (*e.g.*, private pasture or hay lands; access to riparian areas; favorite hunting or fishing areas; water rights) increases; increased conflict with people who enforce policies which affect resource allocations, if those resource decisions are different from the decisions local residents would have made (most people interviewed in the social study felt the local community should be the locus of control for decisions about resource use; see ***Chapter 3*** - Economy and Society, pp. 218-219); and decreased tolerance toward people who do not share the land use viewpoints of the majority of people interviewed in the social study (who felt customary resource uses (*e.g.*, grazing, water) are either assumed to be rights or are codified as rights; see ***Chapter 3*** - Economy and Society, pp. 218-219). It cannot be predicted, based on available information, whether the PRMP would help achieve a balance between sustained use of multiple resources (including ongoing rural resource use) and development, since many factors of future development (especially private land uses, commodity prices, and the influx of retirees) are outside BLM control.

Table 4-1: Quantitative Impacts
Changes Due to PRMP Actions[1], by Economic Sector and County

Economic Sector	**County**	**Population[2]**		**Employment**		**Baseline Sales**		**Baseline Earnings**	
		Number	*% change*	*FTE*	*% change[3]*	*$1,000s*	*% change[3]*	*$1,000s*	*% change[3]*
Regional Economy[4]	Custer	-34		-11.18		-675.18		-254.61	
	Lemhi	3		1.03		268.64		53.40	
	2-county region	-31	-.26	-10.05	-.22	-406.54	-.14	-201.21	-.21
Agriculture Sector	Custer	-34		-11.43		-713.23		-262.53	
	Lemhi	-6		-1.95		-79.36		-31.11	
	2-county region	-40	-.34	-13.38	-.29	-792.59	-.27	-293.64	-.30
Timber Sector[4]	Custer	1		0.25		38.06		7.91	
	Lemhi	9		2.98		348.00		84.51	
	2-county region	10	.08	3.23	.07	386.06	.13	92.42	.09

[1] The information contained in *Table 4-1* was presented in the Challis Draft RMP/EIS as *Table 4-2*. The calculation of quantitative impacts displayed in *Table 4-2* assumed implementation in 1997 (using projected population values for 1997 - see Footnote 2), estimated reductions in livestock grazing active use up to 12,658 AUMs (25%), and timber harvest up to 6.60 MMBF per decade. The same analysis is presented here in the Final EIS, because (a) the PRMP proposes actions which would also result in estimated reductions in livestock grazing active use up to 12,658 AUMs and timber harvest up to 6.60 MMBF per decade, and (b) calculation changes based on implementation in 1998 or 1999 (*i.e.*, using 1998 or projected 1999 population figures) would not be significant.

[2] The population base in 1997 due to *external* (non-RMP) factors was projected to be the following:

Custer County	4,271
Lemhi County	7,635
2-county region	11,906

[3] Percent change is calculated compared to the existing (1991) condition - see ***Chapter 3*** - Economy and Society and *Appendix B, Items 1 through 5.*

[4] Analysis does not include changes to 1991 baseline data which may have resulted from closure of the Salmon Intermountain sawmill in 1995.

Table 4-2: Changes in Local Government PILT[1], Tax Revenues, and Expenditures Due to PRMP Actions, by County[2]

Local Government Factor, by County	**1997 Control**[3]	**PRMP**[4]	
	$1,000s	*$1,000s*	*% change*
PILT			
Custer	213.57	211.9	-.8
Lemhi	265.29	265.3	0
2-county region	478.88	477.2	-.35
Tax Revenues			
Custer	2,535.60	2,521	-.6
Lemhi	3,915.47	3,917	-.04
2-county region	6,451.07	6,438	-.2
Expenditures			
Custer	6,797.70	6,756	-.6
Lemhi	8,950.44	8,953	-.03
2-county region	15,748.14	15,709	-.2

[1] PILT: Payments in lieu of taxes.

[2] The information contained in *Table 4-2* was presented in the Challis Draft RMP/EIS as *Table 4-6*. The calculation of quantitative impacts displayed in *Table 4-6* assumed implementation in 1997 (using projected population values for 1997 - see *Table 4-1*, Footnote 2), estimated reductions in livestock grazing active use up to 12,658 AUMs (25%), and timber harvest up to 6.60 MMBF per decade. The same analysis is presented here in the Final EIS, because (a) the PRMP proposes actions which would also result in estimated reductions in livestock grazing active use up to 12,658 AUMs and timber harvest up to 6.60 MMBF per decade, and (b) calculation changes based on implementation in 1998 or 1999 (*i.e.*, using 1998 or projected 1999 population figures) would not be significant.

[3] Any changes from 1991 to 1997 due to external (non-PRMP) factors. See ***Chapter 3*** - Economy and Society for 1991 PILT data.

[4] Changes from 1997 control are due to these PRMP actions: up to 6.60 MMBF timber harvest per decade; estimated reductions in livestock grazing active use up to 12,658 AUMs (25%).

Fisheries

No Reasonably Foreseeable Effect to Fisheries: No reasonably foreseeable effects to fisheries would be expected from the PRMP decisions listed under the following sections: Air Quality, Cultural Resources, Paleontological Resources, Tribal Treaty Rights, Visual Resources, or Wildlife Habitat.

General Discussion of Effects to Fisheries: The impacts to fisheries values discussed below vary in intensity and magnitude. Some actions tend to produce beneficial impacts, while others produce adverse impacts. These impacts are best understood by recognizing their effects on the various life stages (spawning, incubation, rearing, and migration) and habitat requirements (pool quality and quantity, stream width/depth ratios, instream large woody debris for cover, overhanging vegetation for shade and cover, water temperature stability and maximums, adequate water supply for the life stage of the fish, bank stability, overhanging banks for cover, water quality, macroinvertebrate population and composition as a salmonid food supply) of fish. Different fish populations would be affected to varying degrees, depending on their response to environmental effects.

Sediment Impacts: Increased or reduced sediment discharge to aquatic habitats is a common effect described in the discussion of direct and indirect effects to fisheries. Sediment has the greatest effect on spawning, incubation, and rearing life stages, and on pool quality, water quality, and macroinvertebrate populations. Excessive sedimentation reduces available clean gravel required for spawning habitat, reduces oxygen supply to redds, and fills substrate interstitial spaces required for rearing of small fish. It fills existing pools, causes excessive turbidity and suspended sediments in the water column, contains organic matter (which places an oxygen demand on the water during decomposition, reducing available oxygen for fish), and reduces the salmonid preferred macroinvertebrate populations which require clean gravel for survival. Salmonid production is directly related to instream fines, with production decreasing with increasing fines. Conversely, salmonid production increases as the amount of instream fines is reduced.

Streambank Condition Impacts: The trampling or breaking down of streambanks by livestock, OHVs, or recreationists physically displaces large pieces of bank into the stream channel, leaving an eroding bank, as well as compacting the remaining bank and retarding its ability to reestablish a healthy riparian zone. The breaking away of winter ice from unstable streambanks also displaces large pieces of bank into the stream. Water action breaks the soil into fine particles, which are deposited downstream as silt and sediment. The streambank failure process also eliminates important salmonid habitat for escape cover. As the amount of undercut streambank is reduced, salmonids become more vulnerable to predation. Sediment from unstable streambanks reduces pool depth and spawning gravel quality, further reducing the juvenile and adult survival within the affected stream reaches.

Upland and Riparian Vegetation Condition Impacts: Upland and riparian vegetation condition affects sediment discharge to aquatic habitats. It also directly or indirectly affects rearing and migration conditions, pool quality and quantity, stream width/depth ratios, instream large woody debris for cover, overhanging vegetation for shade and cover, water temperature stability and maximums, adequate water supply for the life stage of the fish, bank stability, overhanging banks for cover, water quality, and insect populations and composition as a salmonid food supply. All of these habitat elements are essential for sustaining healthy salmonid populations.

Upland watershed vegetation influences the infiltration and runoff characteristics of a watershed. It affects the ability of a watershed to (a) store and release water through groundwater flow to a stream over a long period, and (b) minimize the extent of "flashy," sediment-laden, overland flow events. A healthy, well-vegetated watershed tends to maintain adequate summer and fall season base flows through increased infiltration, which contributes to a sustained inflow of cool groundwater to the stream system and stabilizes stream temperatures. The stable flows and cool temperatures are required for fish spawning, incubation, rearing, and migration; maintaining high water quality; and sustaining a healthy macroinvertebrate population.

Good riparian vegetation community conditions improve the infiltration, filtration, and stability characteristics of a stream system. They allow a riparian system to store and release water through groundwater flow to a stream over a long period, dissipate energy of high flows without stream degradation, revegetate degraded conditions, and filter water quality contaminants of overland flows prior to entering the stream channel. These conditions improve the water quality and quantity needed to sustain healthy macroinvertebrate populations and fish habitat requirements for spawning, incubation, rearing, and migration.

Good riparian vegetation community conditions stabilize overhanging banks for cover; reduce erosion due to bank cutting; reduce stream width/depth ratios; provide overhanging vegetation for cover and insect habitat (salmonid food supply); provide shade, water temperature cooling benefits, and thermal cover, reducing the severity and length of winter icing problems; and provide instream large woody debris for cover. These conditions are all necessary for salmonid rearing and migration. Good riparian vegetation community conditions stabilize a stream system, allowing the system to take advantage of flows which tend to improve pool quality by scouring and cleaning silted-in pools. These conditions also allow development of a stable stream system with pool and riffle quantities in balance with the stream type. These conditions are necessary for healthy macroinvertebrate populations and composition, and for fish spawning, incubation, rearing and migration.

Toxic Materials Impacts: The introduction of toxic materials in watersheds containing fish populations has the potential to adversely affect the fisheries resource. The effect of toxic materials spilled in either riparian or aquatic habitats would depend on the toxic substance spilled, the concentrations arriving in the aquatic habitat, and the life stage of the fish coming in contact with the toxic substance. The effects of a chemical spill on any life stage can either be acute (short-term response to large doses over a short period of time) or chronic (delayed response to continuous or repeated doses over a long period of time). Salmonid eggs are more vulnerable to the affects of toxic materials because they are in a developmental stage and are not able to move away from the contaminate. Depending on the timing of exposure, a variety of skeletal or organ deformities can occur which may directly or indirectly lead to mortality. Adult salmonids are mobile and may be able to avoid chemical contact if uncontaminated habitats are accessible. However, direct chemical contact can damage gill membranes and cause mortality by suffocation. Bioaccumulation of chemical contaminants through the food chain may also occur when chemicals are introduced into streams.

Mitigated Effects: The general SOPs (see *Attachment 5*, p. 107) and design specifications (see *Attachment 8*, p. 120) include site- and project-specific requirements for BLM analysis and, in some cases, third party consultation to protect the habitat of special status fish species. SOPs and design specifications are expected to reduce adverse impacts to fish and aquatic habitats from specific project activities. All life stage habitat requirements for special status fish species which can be met within RA boundaries (*i.e.*, this does not include migratory and ocean habitat for anadromous fish) would be expected to be maintained or improved. Adverse effects on Federally listed, or proposed for listing, threatened or endangered fish populations and habitats would be fully mitigated.

Specific Effects to Fisheries: Specific effects to fisheries resources are described below under these categories: Summary of Effects; Direct and Indirect Effects, by Proposed RMP Section; and Cumulative Effects.

Summary of Effects

1. Management actions would significantly improve riparian habitat conditions in the short term and in the long term. Resource issues would be addressed on an ecosystem basis; this would establish the conditions for significant improvement in aquatic and fish life stage habitat requirements, and maintain these conditions over the long term. The rate of recovery in the affected riparian areas would vary by the grazing standard used, but riparian condition is expected to improve throughout the RA over time. Resident and anadromous fish populations are likely to increase due to improvements in stream condition.

Direct and Indirect Effects, by Proposed RMP Section

Livestock Grazing

2. Many of the allotments identified as priority allotments to determine proper stocking level have special status anadromous and resident fish populations. These allotments would receive attention to rapidly address and improve riparian vegetation and aquatic habitats that exist within some of those allotments (see *Table 4-3: Priority Streams by Allotment*, p. 368). Expected benefits to aquatic habitats include improved streambank stability, streamside shading, and cooler water temperatures. More vegetation along streambanks would also reduce sediment inputs to the stream and improve spawning gravel quality.

3. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve water quality and support beneficial uses. Water quality of intermittent and perennial streams with aquatic habitat beneficial uses would be improved through management strategies which have been demonstrated, or can be reasonably expected, to enhance the riparian and aquatic habitats. Salmonid production is expected to increase as water quality is improved.

4. Nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled would be retained until related watershed, wildlife, and aquatic habitat objectives are met. These actions would help accelerate riparian and aquatic habitat improvement, when they occur. Salmonid populations are expected to benefit from any improvements in aquatic habitat condition.

5. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. Im-

proved distribution would directly minimize livestock concentrations in riparian areas or small sections of a pasture, create more even utilization of the forage resource, and limit the creation of overgrazed, unvegetated, sediment-producing zones within a pasture. Improved distribution would indirectly reduce the sediment discharge to aquatic habitats. Salmonid production is expected to increase as the level of instream fines is reduced.

6. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, and (b) protect watersheds from excessive runoff events. Expected benefits to aquatic habitats fisheries over time include reduced overland flows (which can degrade stream channels) and sediment transport, and increased watershed storage capacities (which help maintain summer and fall base flows and cool water temperatures).

Wild Horses and Burros

7. Maintaining existing wild horse herd numbers would continue to impact riparian and aquatic habitats in selected portions of the HMA through locally concentrated woody and herbaceous use and streambank trampling. However, adverse effects to aquatic habitats are not expected, because the herd size would be reduced before adverse impacts occur. Livestock management would improve vegetation conditions in the HMA, thereby also improving wild horse distribution and reducing the cumulative impacts to riparian areas in the HMA.

Upland Watershed

8. Increased consideration of the effects of soil compaction and erosion when planning land disturbing activities would reduce upland sediment transport and associated impacts to water quality, beneficial uses, and watershed storage capabilities. Reduced sediment loading into spawning and rearing habitats would benefit salmonids by improving instream habitat condition.

Riparian Areas

9. Riparian stubble height and bank shearing criteria would be expected to provide improved riparian and aquatic habitat. These criteria would ensure that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. These criteria would also be expected to reduce sedimentation to aquatic habitats and improve riparian habitat conditions, including bank stability, bank angle, width/depth ratio, and riparian area vegetation community composition. Salmonid production would be expected to increase as these habitat conditions improve.

10. Increasing public awareness of the value of good condition, functional riparian and wetland habitats would help land users become more knowledgeable about and sensitive to these issues. As a result, land users may modify their actions to be less of an impact on fisheries and aquatic resources.

11. Development of riparian study areas would help evaluate applied management strategies for riparian vegetation improvement and indicate the potential for vegetative succession. Inferences from the study exclosures may be made about the improvement in riparian and aquatic habitats and water quality which can be expected under comparable conditions outside the enclosed study area. Information on the effectiveness of selected land management strategies would be acquired and may be applied throughout other appropriate watersheds to improve riparian and upland vegetation conditions. Salmonid populations are expected to increase as riparian function and condition improve.

12. The primary emphasis within riparian pastures would be to meet riparian and aquatic objectives. Greater control of riparian forage use would be possible within riparian pastures; aquatic habitats within those pastures would improve due to improved riparian vegetation condition.

Floodplain/Wetland Areas

13. Discouraging floodplain or wetland development and requiring mitigation of actions which could cause adverse impacts to floodplain or wetland functions would protect the vegetation and land form characteristics of these areas. This would improve the infiltration, filtration, flood attenuation, and stability characteristics of a stream system, and thereby improve water quality and quantity for fish.

Fisheries

14. Defining priority fish species and crucial habitats would help ensure that management actions do not adversely impact these species or habitats. Management actions intended to maintain or improve riparian and upland vegetation and reduce sedimentation would benefit aquatic and fisheries resources. Removing or modifying artificial barriers to fish migration, and removing or modifying natural barriers where practical, would expand available habitat for priority fish species. Broad scale improvements in riparian habitat condition would likely occur as cooperative partnerships between various State, Federal, and tribal agencies and other partners are developed.

Minimum Streamflow

15. Streams identified as priority streams on which to pursue minimum streamflow are also priority fisheries streams. Acquiring minimum streamflows would benefit fisheries by stabilizing functional riparian and aquatic habitat conditions.

Water Quality

16. Actions intended to maintain satisfactory water quality, improve unsatisfactory water quality, and support existing beneficial uses would have a beneficial effect on fisheries and aquatic habitats by reducing sedimentation and nutrient loading to aquatic habitats in the long term.

Fire Management

17. Fire suppression guidelines would generally protect aquatic habitats from potential sedimentation impacts; however, fire line construction by hand or motorized equipment could be source locations for sediment input to aquatic habitats throughout the RA. Emphasis on avoiding aquatic and riparian areas for fire staging activities (see PRMP, *Attachment* 9, pp. 124ff) would

reduce potential sedimentation impacts to aquatic habitats and minimize the potential for nutrient or toxic loading to riparian and aquatic habitats.

The long term impacts of full fire suppression would likely result in a build up of fuels which could lead to a large scale catastrophic fire over a large geographic area. This may result in adverse effects to aquatic habitats such as sediment loading and increased stream temperature due to a loss of streamside shading. Recovery rates for the affected streams would be determined by the severity of the burn and the size of the affected area.

Conditional fire suppression strategies on prescribed natural fires and wildfires would reduce the risk of a large scale catastrophic fire. Although there may be effects to riparian and aquatic habitats, such as a reduction in streamside shading and increased sediment loading, these effects are likely to be short term in nature and affect a relatively small area.

Rehabilitation specifications would accelerate recovery of riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation of riparian or aquatic habitats that burn during a wildfire or prescribed fire would reduce the time needed to restore fisheries values within the affected areas.

Transportation

18. Restrictions on new road construction in riparian areas would minimize new sediment loadings to aquatic habitats. Design specifications for new road construction are intended to eliminate increased sedimentation impacts to aquatic habitats and provide for fish passage. Evaluation and modification of existing roads and trails would reduce the sediment loading to aquatic habitats that may currently impact identified beneficial uses, including fisheries habitat.

19. Focusing road and trail maintenance on areas with the greatest potential for erosion and resource damage would help reduce potential sedimentation. Road maintenance design specifications (in addition to State-approved BMPs for road construction and maintenance) are expected to minimize increased sedimentation impacts to aquatic habitats and protect water quality, thus benefitting fisheries resources by improving spawning and rearing habitat quality.

Rangeland Vegetation Treatment Projects

20. Vegetation treatment projects have the potential to impact fisheries values in the short term (2 to 5 years), through increased sedimentation from actions such as plowing or burning. However, an objective of the vegetation treatment project would be to increase vegetative cover, thereby reducing the potential for sedimentation in the long term. Proposed buffer strips and vegetation conversion acreage limitations would mitigate the potential sedimentation impacts to aquatic habitats.

Noxious Weeds

21. Spraying noxious weeds in conformance with the *Northwest Area Noxious Weed Control Program EIS* would limit the possibility of adverse toxic

impacts to aquatic resources. Emphasis on integrated pest management and other noxious weed control actions would also minimize the potential for adverse toxic impacts to aquatic habitats.

Forested Areas

22. Reducing the commercial timber base by approximately 24% would maintain some forested lands in an undisturbed condition, reducing the potential for induced sedimentation from those lands. In forested areas where harvest does take place, the management practices, SOPs, and design specifications identified would adequately protect fisheries habitat from significant adverse sedimentation impacts.

Recreation Opportunities and Visitor Use

23. Sedimentation and nutrient loading would be reduced in streams adjacent to casual use areas identified for closure or hardening. Construction of new recreation facilities within riparian areas could cause increased sedimentation to aquatic habitats in, and adjacent to, campgrounds and casual use areas. Increased disturbance of migrating anadromous fish could also result at the developed recreation areas. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation, water quality, and fish disturbance. The expected increase in recreation use does pose a greater risk of hazardous or other pollutant material spills into streams, potentially adversely impacting fish in a localized area. However, recreation site development would typically be away from the streamside to minimize this potential.

Off-highway Vehicle Use

24. Limiting OHV use to existing roads, vehicle ways, and trails would nearly eliminate sedimentation impacts from off-road vehicle travel, and allow mitigation efforts to be focused on maintaining roads and trails to minimize adverse sedimentation impacts (see "Transportation," #19 above). Fisheries resources would likely benefit, due to improved upland and riparian vegetation condition and subsequently reduced sediment loading into streams.

Land Tenure

25. Pursuing a "no net loss" policy of like riparian, floodplain, or wetland habitat values on individual land tenure adjustments would eliminate incremental loss of these habitat areas over time; in the long term there could be a net increase in the protection of these habitats. Managing land acquired for special values (such as habitat for special status fish populations) would facilitate recovery of special status species.

26. Acquisition of lands with high resource values (such as fisheries resources) would be the highest priority for land tenure adjustments. This management policy would protect fisheries habitats in the acquired lands from any adverse impact.

Wild and Scenic Rivers

27. Nine of the ten river segments identified as eligible, with a suitability finding deferred, have fisheries OR values. Managing these segments to protect their free-flowing character, OR values, and level of development that resulted in their tentative classification, would maintain or enhance the

fisheries resources along these segments. The following benefits to fisheries resources would occur as a result of the suitability findings presented in the PRMP: (a) two of the streams found suitable, or suitable as part of a system (Herd Creek, West Fork Morgan Creek), have fisheries OR values; the fisheries resources along these segments would be maintained or enhanced for the long term; and (b) acquiring and maintaining minimum streamflows existing at the time of WSR designation would enhance fisheries values.

Areas of Critical Environmental Concern

28. Special management to maintain the unique resources within ACECs may indirectly benefit the fisheries values within, and adjacent to, ACECs by maintaining or improving vegetation conditions within the ACECs and reducing sedimentation. Management actions for the Herd Creek Watershed ACEC would directly benefit fisheries resources within the watershed by improving riparian and upland vegetation conditions and reducing sedimentation.

Wilderness Study Areas - Management if Released

29. Suitable WSAs released from wilderness review would primarily be managed to maintain their primitive values. Resource development within these areas would be limited, and protection of riparian and aquatic habitats would remain a high priority. Fisheries values would be maintained within these WSAs.

Special Status Species

30. Site-specific field assessments of special status species may add to the information base available for fish, allowing future management decisions to be based on more complete data. By association, management actions identified to maintain and enhance habitat requirements of plant or animal special status species could also maintain and enhance riparian, aquatic, and fish habitat. Mitigation requirements for Federally listed threatened and endangered species would help maintain habitats for anadromous and resident salmonids. Expanded partnerships with academic institutions and conservation groups may help increase information about, and improve habitat management of, special status fish species.

Biological Diversity

31. Management initiatives to protect and enhance biodiversity would cause management actions to be reviewed and considered on an ecosystem basis, and sometimes in cooperation with other agencies and adjacent landowners; as a result, fisheries habitat and life cycle needs would be more fully considered and addressed. Information gathered on diversity patterns and key ecosystem indicator species would help the BLM develop appropriate fisheries resource objectives and management strategies to protect and improve fish habitats.

Minerals

32. NSO or standard stipulations on oil, gas, and geothermal leasing in ACECs, SRMAs, WSAs if released from wilderness review, and riparian areas in anadromous fish and bull trout watersheds may help protect fisheries in those areas from vegetation removal, sedimentation, and toxic impacts of

oil, gas, and geothermal development. The likelihood of adverse impacts from these activities is very low, since there is a low potential for energy minerals occurrence in the RA. Closing recreation sites and existing WSAs to energy leasing would fully protect fish habitats in those localized areas from adverse impacts of oil, gas, or geothermal development.

33. Standard stipulations and other restrictions on disposal of mineral materials and non-energy mineral leasing would fully protect existing fisheries resources in the major stream segments and some tributaries of the RA from adverse effects of mineral material disposals and non-energy leasing. Closing recreation sites, existing WSAs, and riparian habitats in salmon, steelhead, and bull trout watersheds to mineral material sales and non-energy leasing would fully protect fisheries values in those localized areas from the adverse effects of mineral materials development or non-energy leasing activities.

34. Maintaining the withdrawn status of recreation sites from locatable mineral entry would have a minimal benefit to fisheries values, because of the small acreage involved. Withdrawing suitable WSAs if released from wilderness review from locatable mineral entry would protect existing riparian and aquatic habitats important to fish in those areas. Small scale (less than 5 acres) mineral location activities outside ACECs, WSAs, WSR corridors, and areas closed to OHV use could negatively impact fisheries and fisheries habitat through removal of riparian vegetation, increased sedimentation, and water quality contamination. For larger scale mineral activity, some additional protection of the fisheries resource could be provided through preparation of the plan of operations and ID team review. Design specifications which address management of mining waste facilities to control sedimentation and toxic effects, prohibit the placement of these facilities in riparian habitat areas, where feasible. The design specification attempts to control and monitor effects of these facilities, but is limited in its ability to do so, because existing laws allow a high degree of flexibility to the mineral locator. Negative impacts to the fisheries resource could still include removal of riparian vegetation, increased sedimentation, and water quality contamination. Required reclamation actions associated with large scale mineral material location actions would mitigate some of the adverse impacts in the long term.

Hazardous Materials

35. Actions such as (a) eliminating the use or transportation of hazardous or toxic materials where feasible within the RA, and (b) stipulating permits, leases, or other actions as appropriate to safeguard against environmental damage, would minimize the chance and severity of impacts to fish habitats from toxic contamination.

Cumulative Effects

Note: Fisheries *habitat* is managed by the BLM, while fisheries *populations* are managed by the IDFG (and other wildlife/fisheries management agencies of states through which anadromous fish migrate). This discussion of cumulative impacts therefore only describes effects of BLM and others' actions on fisheries habitat within the boundaries of the RA. It does not consider effects to fish *populations* which may occur outside the RA boundaries (such as during anadromous fish migration to and from the ocean).

36. Management actions would cause an immediate and sustained improvement in fisheries habitats, primarily through better management of riparian and upland vegetation communities. Improved vegetation conditions would be expected to reduce sedimentation to aquatic habitats and nutrient loading of water courses and substrates of aquatic habitats. The improved vegetation conditions would also establish conditions to stabilize stream systems, allowing the system to take advantage of flows which tend to (a) improve pool quality (by scouring and cleaning silted-in pools) and (b) develop pool and riffle quantities in balance with the stream type and necessary for healthy macroinvertebrate population and composition. These conditions would have the greatest impact on spawning and rearing habitats. A general improvement in overall aquatic habitat quality over the long term would be expected. A corresponding improvement in the viability of the existing fish resource would also be expected.

37. Forest Service and State land management practices are also being modified to improve salmonid spawning, rearing, and migration habitats. As these practices continue, sedimentation and nutrient loading impacts would be decreased on these lands and consequently have less impact on downstream aquatic habitats on BLM lands.

38. Private lands within the boundaries of the Challis Resource Area contain a large percentage of the potential spawning, rearing, and migration habitats of salmonids. The largest use of these lands has been agricultural use supporting the livestock industry within the area. These uses on private lands tend to produce sedimentation and nutrient loading impacts which adversely affect spawning and rearing habitat in particular. Actions on private lands are outside the scope of BLM jurisdiction. However, the BLM will pursue opportunities to work cooperatively with private land owners to promote good riparian habitat at the watershed level; these efforts are expected to reduce sedimentation and nutrient loading impacts to aquatic resources on public lands.

    An additional concern which affects aquatic habitats on all lands is partial or total dewatering of streams. Diversion of stream water for private land irrigation is a widespread concern within the boundaries of the Challis Resource Area. Diversion typically occurs on the lower extent of BLM lands or on private lands. Dewatering or significant reduction of streamflows by these diversions cause access and migration problems to spawning and rearing habitats on BLM lands, as well as eliminating macroinvertebrate populations required for rearing in the dewatered reaches.

These effects are expected to be reduced through cooperative efforts among the BLM, IDFG, tribes, Model Watershed Project, and private landowners to combine or modify diversions and promote efficient water use.

Unscreened diversions cause mortality to fry and down-migrating smolts by allowing the small fish to enter irrigation ditches and be flushed into agricultural fields or stranded when the irrigation ditch is closed and dewatered. Diversion screening activities currently under way through cooperative programs with private, State, and Federal entities, will slow the mortality rate and improve conditions for these fish.

Mineral development on private lands is a potential concern to fisheries resources. Since a large percentage of the spawning, rearing, and migration habitat occurs on private lands, the potential impact from these activities may be even greater than on Federal and State lands. If the private landowner has retained the mineral rights on and under the private land, development would be subject to State standards. If the private landowner has not retained the mineral rights on and under the private land, development would be subject to the same Federal standards as described under minerals, including plans of operations and ID team review. The potential impacts to fish resources include sedimentation, loss of protective vegetation, and toxic contamination.

Increasing restrictions for livestock grazing, mining, and other private uses on BLM managed land may shift these activities onto private land where restrictions are limited or do not apply. The potential for adverse affects to fisheries from minerals activities would be minimized by State or Federal regulations which require compliance with State Water Quality Standards. However, adverse affects from removing riparian vegetation and altering streambanks may still occur. A shift of livestock grazing from Federal to private land could result in unregulated grazing, unless a cooperative agreement with the private land owner could be developed. Without a cooperative agreement, livestock could have unrestricted access to riparian areas, potentially adversely affecting riparian vegetation, streambanks, and spawning and rearing habitats for special status salmonids.

A fairly significant impact to fisheries of toxic contamination from private lands is also present. The use of toxic materials on private lands is generally greater than on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps which may occur on private lands are all potentially hazardous situations to fish.

Table 4-3: Priority Streams, by Allotment

Priority Stream	*Allotment*
Burnt Creek	Burnt Creek Allotment
Short Creek	Dry Creek Allotment
Long Creek	Dry Creek Allotment
Dry Creek	Dry Creek Allotment
Pahsimeroi River	Upper Pahsimeroi Allotment
Mahogany Creek	Upper Pahsimeroi Allotment
Road Creek	Mountain Springs Allotment*
Mosquito Creek	Mountain Springs Allotment*
Bear Creek	Mountain Springs Allotment*
Horse Basin Creek	Mountain Springs Allotment*
North Fork Sage Creek	Mountain Springs Allotment*
Corral Basin Creek	Warm Springs Allotment
Lake Creek	Herd Creek Allotment
Herd Creek	Herd Creek Allotment
McDonald Creek	Herd Creek Allotment
Bayhorse Creek	Bayhorse Allotment
Sage Creek	Sage Creek Allotment
Bradshaw Creek	Sage Creek Allotment
Corral Creel	Sage Creek Allotment

*formerly named the San Felipe Allotment

Forest Resources

Introduction: Restrictions (*e.g.*, harvest methods, buffer strips) placed on management of the available timber base because of concerns for other resource values (such as wildlife, recreational use, fisheries) would not preclude forest management and planned timber harvest. However, any loss in timber yield which may result from these restrictions would be taken into consideration in future calculations of the allowable cut. Commercial timber lands which are set aside would be withdrawn from the timber production base, would not be available for scheduled timber harvesting, and would not be included in allowable cut calculations. However, these set-aside commercial timber stands and stands classified as woodland would be subject to limited forest management activities such as logging road rights-of-way, salvage operations, and firewood cutting. Any volumes of timber removed from these lands would not be used to satisfy allowable cut levels.

No Reasonably Foreseeable Effect to Forest Resources: Decisions listed in the PRMP under the following sections would have no reasonably foreseeable effects on forest resources: Air Quality, Biological Diversity, Cultural Resources, Fisheries, Floodplain/Wetland Areas, Hazardous Materials Management, Land Tenure and Access, Minimum Streamflow, Noxious Weed Infestations, Off-highway Vehicle Use, Paleontological Resources, Rangeland Vegetation Treatment Projects, Recreation Opportunities and Visitor Use, Special Status Species, Transportation, Tribal Treaty Rights, Water Quality, Wild Horses and Burros, and Wild and Scenic Rivers.

Summary of Effects

1. Adjusting harvest levels and conducting new inventories of forest lands in the Resource Area would ensure that harvest in excess of sustained yield levels would not occur. Using prescribed fire in forest systems may benefit long term forest sustained productivity. Silvicultural prescriptions to enhance natural regeneration would reduce reforestation costs. Harvest restrictions to improve and maintain wildlife habitat may increase layout and harvesting costs. Permanently withdrawing selected commercial forest acreage from harvest may decrease forest productivity in those areas, in the absence of prescribed or natural fire. However, examples of undisturbed forest ecosystems would be retained for the future.

Direct and Indirect Effects, by Proposed RMP Section

Forest Resources

2. Acreage withdrawals in WSAs and ACECs would be reflected in the total acres managed and volume harvested per decade. This harvest level is considered sustainable, based on eastern Idaho zone forest inventories completed in 1977. As a result, forest health and vigor would not be expected to decline over the long term.

3. In the absence of prescribed or natural fire, forest health and diversity would decline on acres withdrawn from forest management (e.g., existing WSAs):

   (a) Susceptibility to epidemic insect or disease outbreaks would increase, due to the lack of thinning and the decrease in vigor that result from overstocking. For example, in lodgepole pine types a trend toward uniform large-diameter stands would increase the hazard of destructive stand removal by mountain pine beetle.

(b) Stands containing fire- or disturbance-dependant seral species (such as quaking aspen and lodgepole pine) would become less abundant, as these stands undergo succession to the climax Douglas-fir and subalpine fir types. Pre-suppression forest stand diversity potentially reduces catastrophic hazards associated with insects, diseases, and fire by creating natural barriers and breaks in forest stands. For example, even-aged pole or sapling stands caused by disturbance (pre-climax structures in single-species stands) serve as breaks in otherwise monotypic forest stands.

(c) Unnatural fuel loads and ladder fuel buildup could increase susceptibility to adverse fire effects, including long term problems in the soil profile which result from excessively hot fires.

When natural fire occurs in conditional fire suppression areas, forest health and diversity may improve, risk of catastrophic insect or disease outbreaks would be reduced, and seral species or pre-climax structures may increase in occurrence. Future fire effects would maintain the character of these fire-altered stands, rather than cause catastrophic stand replacement. Prescribed fire could improve forest health in lands withdrawn from timber harvest by potentially reducing ladder fuels, thinning overstory co-dominants, and improving conditions for seral species (*e.g.*, aspen and lodgepole pine) and pre-climax stand structures.

4. Harvest levels may increase or decrease based on growth and yield data resulting from intensive forest inventories. Regardless of whether there is an increase or decrease, accurate data and evaluation would ensure that timber harvest levels are compatible with the principles of sustained yield.

5. Reducing clearcut size in Douglas-fir types to 10 acres would reduce the susceptibility of regeneration to drought stress, improve natural regeneration in these areas, reduce potentially high artificial reforestation costs, and sustain site productivity and timber yield, at least for the short term. However, large epidemic outbreaks of diseases or insects on areas larger than 10 acres may be impossible to adequately sanitize to prevent further spread of these problems.

6. Timber marking to establish or enhance natural regeneration would reduce artificial regeneration costs for contracted cone collection, seedling growing, and planting. Prescriptions such as group selection would maintain shade and prevent wind scouring and drying of forest stands, thereby maximizing natural regeneration occurrence.

7. Natural regeneration may alter yields, due to the lag time involved in establishing natural seedlings. Cone yields and moisture conditions must coincide before a harvested stand can adequately regenerate.

8. Selecting seed from genetically diverse stock would increase the likelihood that genetic material important for forest protection and diversity would be captured. However, some loss of potential for improved growth would be expected.

9. Making artificial reforestation a greater priority than timber sale preparation would temporarily slow timber sale availability when a backlog of artificial regeneration needs occurs.

10. If livestock utilization levels on forested rangelands remain high, the BLM would incur increased costs to ensure that livestock damage to regeneration does not occur. This may lower harvest receipts, due to timber sale collections for fencing or purchaser requirements for fencing. Forest species and structural diversity may increase within fenced areas.

11. Withdrawing 41 small stands (980 acres) from commercial timber harvest would reduce the average annual harvestable yield by 27 MBF. However, small old growth stands would be retained for dependent wildlife species and for study. These stands are particularly useful for identifying silvicultural techniques to naturally regenerate dry sites.

Livestock Grazing

12. Grazing to the stated utilization level on uplands could adversely affect artificial or natural forest regeneration. Grazing during the late season time period (when less grass is available) may increase livestock browsing on tree seedlings, resulting in terminal shoot destruction.

13. Managing for late seral or Potential Natural Community would reduce the amount of rangeland in poor to fair condition, and as a result, would improve the potential for natural regeneration success. This is because livestock overuse of forage on poor condition range often carries over into adjacent forest land, where heavy utilization and trampling can occur on regenerating trees, particularly where shade is scarce. This may result in less than average growth and yield and, in turn, may result in overharvesting if cutting occurs at the planned sustained yield level.

Wildlife Habitat

14. Continued implementation of existing Habitat Management Plans (HMPs) and proposed development of an activity plan for the Donkey Hills area would subject approximately 6,694 acres of available commercial forest land in the Challis RA to harvest and management restrictions to protect crucial elk winter range and elk habitat quality. Stipulations such as cable and helicopter logging requirements on 4,392 acres would modify sale layouts and promote less economical logging methods. This may affect timber sale success, due to potential increases in harvesting costs. Reduced timber sale receipts may be expected, because of unpurchased sales and the effect of increased logging costs on stumpage value. Forest health problems of epidemic proportions may not be treatable, due to unit size or hiding cover restrictions. However, stand structure and diversity may be enhanced. Stipulations would contribute to the success of natural regeneration in these areas. No loss of harvestable timber yield would be expected.

Upland Watershed

15. Helicopter logging restrictions on 1,801 acres to protect watershed resources on Lone Pine Creek would restrict management activities and increase logging costs, thereby reducing timber sale values and timber receipts. Helicopter logging would promote soil stability and eliminate road construction and the adverse impacts associated with roads.

Riparian Areas .

16. Restrictions on timber harvest within buffer areas along streams and riparian areas would reduce the availability of commercial forest land and reduce the average annual harvest. Since stocking level reductions would not be permitted (except to manage insects or disease), forest health conditions may decline due to rampant disease in these untreatable areas.

Fire Management

17. In the short term, the absence of prescribed fire or prescribed natural fire (other than to increase forage availability or reduce hazards associated with timber management activities) would continue to adversely affect forest health conditions:

    (a) Overstocking would continue to be a problem. In forest habitat types similar to those in the Resource Area, Arno and Gruell (1983) estimated a mean fire-free interval of 41 years. This frequency suggests that these types of stands experienced fire-caused stocking reductions. Overstocking would cause reduced vigor because amounts of moisture, nutrients, and sunlight would be inadequate to support all trees. Reduced vigor would then increase susceptibility to destructive agents such as insects or diseases, and allow for epidemic insect or disease outbreaks due to the widespread hazard of low-vigor trees.

    (b) Excessive fuel loads from fire suppression may create ladder fuel and flame length hazards that could result in catastrophic fire. Root damage may also result from excessive duff accumulated in the absence of fire.

    (c) The insect and disease sanitation effects of fire would be nearly nonexistent. For example, Crane and Fischer (1986) state that "severe fires often replace infested stands with relatively mistletoe-free young stands."

    (d) The overall sustained productivity of the forest ecosystem may decline, due to nutrient cycling problems caused by fire suppression. Although the role of fire in the nutrient systems of forests is not understood fully, fire likely has great importance, especially in light of the regular fire frequencies under which these forests have adapted.

    In the long term, the use of prescribed fire and prescribed natural fire following an ID team planning process would enhance forest health conditions. Forest health conditions could improve in conditional suppression areas.

Areas of Critical Environmental Concern

18. Designation of ACECs to protect rare plants, unusual plant communities, a petrified forest, high altitude range and forest plant communities, and fragile

soils would leave 327 acres of commercial forested land unavailable for timber harvesting and 2,398 acres of woodland unavailable for woodland product sales, resulting in a 12 MBF reduction in average annual harvestable yield. Effects on forest communities in ACECs (*e.g.*, forest health, old growth, and biodiversity) are described above under "Forest Resources," #3. Management actions to maintain crucial elk habitat in the Donkey Hills ACEC would modify forest management on 5,069 acres. (The acreage treated and timber yields expected would be unchanged.) Helicopter logging restrictions on 4,392 acres and reduced logging unit size may reduce the amount of timber sold, depending on timber value fluctuations.

Wilderness Study Areas - Management if Released

19. Harvest levels would increase slightly if suitable and nonsuitable WSAs are released from wilderness review. Commercial forest lands in WSAs (6,209 acres) are currently unavailable for timber harvest and management, which results in a 221 MBF reduction of harvestable yield annually. In the absence of natural or prescribed fire, timber harvest and management may improve the vigor of forest stands and decrease susceptibility to extensive damage by fire, insects or disease. If released from wilderness review, suitable portions of the Jerry Peak WSA (2,787 acres of commercial forest land) would remain closed to timber harvest, resulting in a continued 99 MBF reduction in average annual harvestable yield. In addition, management restrictions in the nonsuitable areas of the Jerry Peak and Corral-Horse Basin WSAs would modify forest management actions on 2,265 acres. (No changes in acreage treated or timber yields would be expected.) Helicopter logging restrictions may reduce the amount of timber sold, depending on timber value fluctuations.

Minerals

20. Where mineral entry occurs on forested lands, it may reduce long term forest productivity by removing timber, replacing forested areas with mining operations, and altering soil surface and subsurface layers.

Visual Resources

21. Classifying the majority of the RA as VRM Class II would eliminate most road construction in unforested areas. Helicopter logging prescriptions would increase, and/or new road access would be located in visually unobtrusive areas. This may increase logging costs and decrease opportunities for forest management, due to economic constraints. Irregular unit design may increase the probability of successful natural regeneration, due to increased shade and seed availability.

22. Helicopter logging restrictions on 1,801 acres to protect visual resources on Lone Pine Peak would restrict management activities and increase logging costs, thereby reducing timber sale values and timber receipts.

Cumulative Effects

23. BLM lands: Same as summary of effects (Forest Resources, #1 above).

24. Adjacent USFS lands: Where USFS forests support unmanaged insect or disease outbreaks adjacent to BLM lands, there would be potential for spread. Because all USFS timber adjacent to Resource Area lands is at

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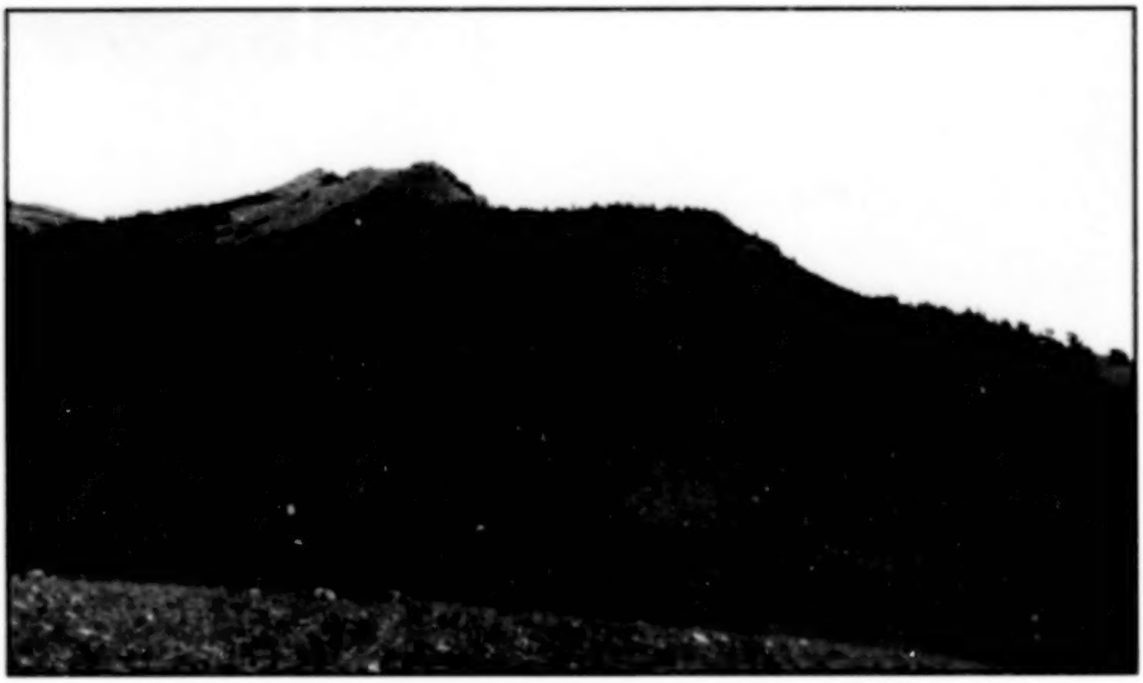
higher elevations than BLM forests, this facilitates spread of some gravity-controlled agents such as mistletoe and spruce budworm. In contrast, stand-altering fires would be less likely to spread downhill from USFS to BLM forests, due to the uphill trend of fire and associated winds. In addition, fuel loading is generally less in the lower elevations, and, if fire did spread, effects are likely to benefit stocking conditions and increase vigor. There may be potential for minor effects to BLM lands along boundaries where USFS management activities such as clearcutting change seedfall or shade. In drainages where extensive USFS logging has occurred, sedimentation may be high enough to restrict future forestry activities on downstream BLM lands.

25. Private lands: Impacts to BLM forest lands could occur from fires ignited on private lands. Private lands are usually located at elevations below BLM lands and, as a result, fire spread along the uphill gradient could rapidly extend to BLM forests. However, potential impacts to stand conditions would generally be favorable, unless burning and fuel conditions caused stand destruction. Risk of stand destruction would be less in the long term, because of increased use of prescribed and natural fire in forests in the RA.



Livestock Grazing

No Reasonably Foreseeable Effects to Livestock Grazing: No reasonably foreseeable effects to the livestock grazing program would be expected from the actions listed in the PRMP under these sections: Air Quality, Cultural Resources, Forest Resources, Hazardous Materials Management, Paleontological Resources, Tribal Treaty Rights, and Visual Resources.

Effects on livestock grazing are described below under the following categories: Summary of Effects; Direct and Indirect Effects, by Livestock Management Factors Affected and Proposed RMP Decisions Causing the Effect ("Livestock Management Factors Affected" include Livestock Forage Allocation and Use, Livestock Forage Quantity and Quality, Livestock Water Availability and Quality, Livestock Use Limitations or Closures, Access for Livestock Management, and Other Factors Affected); and Cumulative Effects.

Summary of Effects

1. PRMP actions would result in major changes to the livestock grazing program. Riparian stubble height and upland cover criteria, and aquatic and riparian objectives would be difficult to meet without additional management by livestock permittees. This would increase permittees' costs and efforts. The long term result of meeting these requirements would be improved riparian and upland conditions, achieved RMP range condition goals, and improved forage quality for livestock grazing. These improvements would benefit livestock permittees in the long term.

Direct and Indirect Effects, by Livestock Management Factors Affected and Proposed RMP Decisions Causing the Effect

Livestock Forage Allocation and Use

Livestock Grazing

2. About 97.3 percent (771,224 acres) of the RA would be available for livestock grazing. The short term grazing allocation would be reduced by 52 AUMs from the closure of the south half of the Highway Allotment, resulting in an active grazing preference of 51,017 AUMs. In both the short and long term, actions such as stubble height requirements and utilization and cover standards (required under the livestock grazing, riparian, fisheries, and upland watershed sections of the PRMP) would probably require livestock to move through the grazing systems more rapidly and off the grazing allotments at an earlier date than permitted, unless permittee actions are taken to improve livestock management. This could result in estimated annual livestock use up to about 12,657 AUMs (about 25%) below the active grazing preference; average annual livestock use would be about 38,412 AUMs. Decisions relating to the allocation of nonuse AUMs and lost, relinquished, retired, sold, or cancelled AUMs would reduce a permittee's ability to mitigate the above actions.

Livestock Forage Quantity and Quality

Livestock Grazing

3. In the short term, modifying annual operating plans to incorporate livestock use criteria from the PRMP would result in less use of existing forage. In the long term, (a) revising AMPs through watershed assessment and development of integrated resource activity plans (IRAPs), as needed, and (b) establishing proper stocking rates for the listed allotments would reduce the number of overstocked allotments and lead to improved forage quality.

Wild Horses and Burros/ Wildlife Habitat

4. No major adverse impacts to the livestock grazing program would be expected from continuing to manage for current wild horse and big game wildlife numbers. If wild horse numbers prove to be a problem in achieving RMP resource objectives, the current Herd Management Area (HMA) Plan would be reviewed and changes proposed.

5. Resolving livestock/big game conflicts on a case-by-case basis could impact livestock grazing to an unknown extent, depending on the degree of public controversy, consultation with the IDFG, etc. Encouraging the IDFG to maintain big game numbers would help ensure livestock/big game conflicts do not increase.

6. Some wildlife habitat management actions (such as fence modification and providing wildlife water in pastures that are not being grazed by livestock) could have slightly negative effects on livestock grazing, by increasing permittee costs, while others (prescribed burns and development of additional watering sources) could improve livestock forage. Special management emphasis on the named bighorn sheep and elk winter ranges would not be expected to impact livestock forage quality and quantity beyond the existing level of management.

7. Resolving reintroduction conflicts through use of an ID team process and consultation with other parties would help ensure that there would be minimal impacts to livestock grazing through competition for available forage.

Noxious Weed Infestations

8. Proposals to increase the level of noxious weed control would benefit the quantity and quality of livestock forage by preventing or slowing the spread of noxious weeds into areas not currently infested.

9. Limitations on feeding commercial stock with hay on BLM land would have minor impacts to the livestock grazing program through increased permittee expense and inconvenience, as requests to do this occur very rarely. An ID team could allow this feeding, leading to benefits to livestock grazing on those rare occasions when feeding is necessary.

Range Improvements

10. Range improvements implemented to promote ecosystem health and diversity could have a positive effect on livestock forage quantity and quality by improving livestock distribution.

11. New AUMs made permanently available through vegetation treatment projects could not be used by livestock until objectives are met on the remainder of the allotment. In the short term, this would limit flexibility for the livestock permittees, but in the long term this could benefit livestock management through improved forage quality and quantity.

12. Requiring livestock permittees to maintain range improvements under cooperative agreements so the improvements are functional and properly maintained before turnout would add an additional workload on permittees, but would ensure that range improvements promote better livestock distribution and more uniform forage utilization. New fences and troughs would help control livestock distribution and areas of use.

Fire Management

13. Full suppression of wildfire on most of the RA could lead to areas where the absence of fire results in sagebrush dominance, reducing available livestock forage. Over time, in areas where conditional suppression is implemented, the amount of acreage where fire suppression results in sagebrush dominance would be reduced. As a result, livestock forage may increase over the long term.

14. Prescribed fire would be used to enhance ecosystem health and function, leading to improved forage quality and quantity.

Fisheries

15. Addressing riparian management through watershed assessments and IRAPs which include criteria for grazing riparian areas would improve forage quality and quantity, but potentially increase permittee costs and efforts. PRMP actions to improve riparian and aquatic habitats (e.g., stubble height and bank shearing criteria) would limit livestock use in several allotments through shortened seasons, and affect livestock grazing throughout the Resource Area. In the long term, these actions would improve forage quality and quantity through improved resource conditions.

16. Management strategies developed to improve 90% of unsatisfactory crucial aquatic and riparian habitats in all fish-bearing streams could have major impacts on the livestock grazing program through increased permittee costs to implement the changes. However, meeting these standards would result in large improvements to forage quality and quantity.

Livestock Water Availability and Quality

Floodplain/Wetland Areas

17. Waterholes developed from springs or seeps would be fenced and converted to pipeline/trough developments when reconstructed. This would provide better quality water for livestock and help protect these waterholes/seeps from trampling damage.

Water Quality

18. Requiring all BLM authorized actions to meet or exceed existing State approved Best Management Practices (BMPs) to support beneficial uses for water quality could increase permittees' costs and efforts. However, meeting or exceeding these BMPs and achieving desired riparian and aquatic habitat

conditions would result in improved water quality for livestock.

Minimum Streamflow

19. Acquisition of minimum streamflows would help ensure livestock water availability.

Livestock Use Limitations or Closures

Livestock Grazing

20. Closures to livestock grazing (21,343 acres) would have minor effects to the livestock grazing program, since the majority of that acreage is currently closed. The overall impact of the additional south half of the Highway Allotment closure (976 acres) on continued livestock grazing would be minor.

21. Limitations on grazing bluebunch wheatgrass during the boot-to-flowering stage would have significant impacts in some allotments. Livestock would have to be moved from some pastures much earlier than is currently required. In some allotments, there may be nowhere else to graze during this period, resulting in seasonal closure of the allotment.

Riparian Areas

22. Maintaining existing riparian exclosures to provide reference areas for management assessment and developing riparian exclosures and pastures throughout the RA would limit livestock grazing in certain areas. Some pastures would be managed with riparian values as the overriding priority. This could cause impacts to livestock operations in the form of higher costs for fencing, riding, salting, etc.

Land Tenure and Access

23. (a) Over the life of the RMP, up to about 63,075 acres of public land would be available for disposal, including up to about 4,806 acres of public land which could be sold. The actual amount of land transferred out of public ownership is anticipated to be much lower. These lands would no longer be available for livestock grazing under BLM administration. In some cases, these lands would be sold or exchanged to the current livestock permittee. The amount of land involved in any particular adjustment would generally be small, resulting in no or minimal reductions in AUMs to any particular allotment or permittee.

    (b) Potential would exist for loss of BLM forage for livestock from exchange of up to about 36,915 acres of public land around Mackay with the State of Idaho. Effects to permittees may be mitigated, if the public lands acquired by the State of Idaho are made available for permitted livestock grazing.

24. Other lands actions, such as rights-of-way, leases, permits, and withdrawals, would have minor impacts to livestock grazing, because permitted use would not be reduced in most cases.

Wild and Scenic Rivers

25. The impacts to the livestock grazing program from Wild and Scenic Rivers actions are expected to be the same as the impacts of fisheries, aquatic, and riparian habitat management actions (see Livestock Grazing, #15 and 16

above). WSR corridors would remain open to managed grazing use, as long as grazing did not adversely affect identified WSR values.

Areas of Critical Environmental Concern

26. There would be no impact to livestock grazing from existing ACECs that remain closed to livestock grazing: Cronk's Canyon, Malm Gulch/Germer Basin, East Fork Salmon River Bench, Sand Hollow, and Summit Creek ACECs. Designation of seven new ACECs would have minimal impacts to livestock grazing, since there are no additional livestock grazing closures due to ACEC designation. However, if ACEC values are determined to be adversely affected, changes in livestock management would be implemented, causing impacts to livestock grazing operations.

Wilderness Study Areas - Management if Released

27. Limitations on construction of new range improvements in existing WSAs (approximately 140,260 acres) would continue to limit their use to control livestock distribution. If WSAs are released from wilderness review, additional range improvements could be constructed after completion of a watershed assessment. This could improve livestock distribution and livestock forage quality and quantity.

Recreation Opportunities

28. Continuing to exclude livestock from portions of existing designated recreation sites would have no impact, since many of the areas are already fenced and the acreage is very small. Excluding livestock from other recreational facilities would have minor impacts, since the sites would be so small no reduction in grazing preference would be necessary.

29. Within designated Special Recreation Management Areas (SRMAs), conflicts between recreation and other resources would be resolved on a case-by-case basis, resulting in potential impacts to livestock grazing if grazing seasons or areas of use are modified.

Minerals

30. Existing minerals activities would not have significant effects to the livestock grazing program, unless another development of the scale of the Thompson Creek Mine project occurred. Then, the impact to the grazing allotment could be so severe as to totally close the allotment to all livestock grazing, with total loss of grazing preference. This would result in severe loss to an individual grazing permittee, but would not be a major impact Resource Area-wide. The potential for this to occur would be low.

Access for Livestock Management

Off-highway Vehicle Use

31. OHV use limitations and closures could limit a livestock permittee's mode of access to some areas. However, livestock permittees could receive temporary exemptions from the BLM authorized officer.

Transportation

32. Road maintenance would benefit the livestock grazing program by ensuring vehicular access to most of the RA for livestock management. Developing transportation and maintenance plans would ensure that a proper number of

roads and trails would continue to be available, without leading to resource damage. Limitations on new road construction in riparian areas would not be expected to impact the livestock grazing program, as it is unlikely new roads would be needed in those areas for livestock management purposes.

Recreation Opportunities and Visitor Use

33. OHV use by recreationists would not be expected to impact livestock grazing, since OHV use would be limited to existing roads, vehicle ways, and trails. The amount of unauthorized OHV use, and potential for cut fences, gates left open, and harassment of livestock, would be expected to be low.

Other Management Factors Affected

Special Status Species/ Biological Diversity

34. The requirement to include a site-specific field assessment of special status plant, animal, and fish species and an analysis of biodiversity as part of project or activity planning could increase the amount of time needed to complete this type of planning, and could constrain project development in some cases.

Wildlife Habitat

35. Livestock grazing would benefit from ADC predator control activities, especially through reduced calf and lamb loss.

Cumulative Effects

36. Cumulative impacts from BLM actions are described in the **Summary of Effects** (Livestock Grazing, #1 above).

37. (a) Cumulative effects to the livestock grazing program could also occur from the actions of adjacent private landowners, because livestock permittees are very dependent on the use of private lands during the time their livestock are not on BLM-administered public lands. Watershed analyses would look at all land ownerships, and would include consideration of adjacent land uses on ecosystem components. This would provide opportunity to mitigate the cumulative effects of private, State, and other Federal agencies' actions on livestock grazing on BLM public lands. Loss of private irrigated ranch lands to subdivision development or other land uses would decrease the amount of hay crop land available. This would increase permittees' dependence on public lands (BLM, USFS, State of Idaho) and could increase operating costs due to the need to purchase hay from outside Custer or Lemhi counties.

    b) Actions taken by State and other Federal agencies to comply with circumstances such as Endangered Species Act anadromous fish recovery, tribal treaty rights, water rights adjudication, and the Clean Water Act would also potentially affect livestock grazing on BLM public lands. National Forest system lands and State of Idaho leased lands also play an important role in overall ranch operations. Any decrease in the availability of livestock grazing on these lands would further increase permittees' dependence on BLM public lands and private lands. Because of a limited amount of private land, the net effect could be a reduced amount of livestock forage available from any land source - private, State, BLM, or USFS. Permittees may be required to reduce livestock operations due to a lack of forage. However, there would still likely be sufficient livestock operations to utilize the livestock allocations offered in the Challis Resource Area.

Minerals

No Reasonably Foreseeable Effects on Mineral Development: No reasonably foreseeable effects on mineral development activity would be expected as a result of management decisions listed in the PRMP under the following sections: Air Quality, Biological Diversity, Fire Management, Forest Resources, Hazardous Materials Management, Land Tenure and Access, Livestock Grazing, Minimum Streamflow, Noxious Weed Infestations, Rangeland Vegetation Treatment Projects, Transportation, Tribal Treaty Rights, Upland Watershed, and Wild Horses and Burros.

Introduction: The discussion of direct, indirect, and cumulative effects for the minerals resource is divided into three analyses: energy minerals; saleable and non-energy leasable minerals; and locatable minerals. The analysis of effects on energy minerals is based on reports submitted for the RMP by Robert Mallis and Steve Moore of the BLM - Idaho State Office (BLM 1992) (see Planning Record). A summary of effects on all types of mineral development is provided below. Estimated minerals closures under PRMP management are shown in *Table 4-6*.

Summary of Effects - All Minerals

1. The application of standard stipulations or no surface occupancy stipulations to energy mineral leases would have the potential to limit the development of energy minerals in the RA. However, the probability of development and the potential for conflict with other resource values is low. There would be no effect on the availability of non-energy leasable minerals, because none are known to occur. The availability of new mineral material pit sites may be limited, due to potential for conflict with other resource values. Alternative pit sites would be available, but hauling distances and material costs may be greater. Restrictions on locatable mineral entry along streams and riparian areas could limit locatable mineral development.

Direct and Indirect Effects, by Type of Mineral Development

Energy Minerals

2. The reasonably foreseeable development scenario (RFDS) of oil and gas activity for the next 15 to 20 years is expected to consist of (1) some leases issued, (2) a few geophysical surveys, and (3) possible drilling of one or two exploratory holes. Based on the historical record and the low potential for occurrence of hydrocarbon minerals or geothermal resources in the Resource Area (see *Map 34: Oil and Gas Potential* and *Map 26: Geothermal Potential*), little or no oil, gas, or geothermal energy development is anticipated in the Resource Area during the life of the RMP. The RFDS estimates that no more than four to eight acres of public land would be subject to disturbance from exploratory drilling, if drilling should occur. Potentially, five to ten miles of road may be constructed that would result in a total surface disturbance of approximately 25 to 50 acres. Drill pads and roads would be reclaimed when operations are complete. Reports by Mallis and Moore (BLM 1992 - see Planning Record) document the poten-

tial development scenario for oil, gas, and geothermal resources in the Resource Area, along with the assumptions used to arrive at the above predictions of acres of disturbance from exploration and development. *Table 4-4* and *Table 4-5* summarize the availability of lands for exploration and development of fluid energy minerals under the PRMP. Also see *Map 34: Oil and Gas Potential* and *Map 26 : Geothermal Potential.*

3. Standard lease stipulations, no surface occupancy (NSO) stipulations, closure of existing WSAs, and the minerals SOPs and design specifications would have some potential to limit oil and gas development in the RA. However, due to the low potential for occurrence of energy minerals in the Resource Area, and the RFDS predicted for the RA, adverse effects on energy mineral development are considered unlikely. The potential for no surface occupancy stipulations to be applied on SRMAs (58,000 acres) and suitable WSAs, if released from wilderness review (38,930 acres) would reduce the probability that exploratory drilling or development would occur in those areas. Closure of campgrounds and recreation sites, and a mandatory NSO stipulation on riparian areas in anadromous fish and bull trout watersheds would be unlikely to limit exploratory drilling or development, due to the small size of these areas.

Saleable and Non-energy Leasable Minerals

4. There are no known deposits of non-energy leasable minerals in the Resource Area, and therefore, no adverse effects to non-energy leasable mineral development are expected as a result of the stipulations and restrictions on mineral development provided for in the PRMP.

5. Mineral material disposals would be allowed on up to 79.8 percent of the RA. Existing community mineral material pit sites (13) would provide for most public demand. New mineral material community pits could be made available for public use as needed, in areas that are not closed or otherwise restricted. A site-specific NEPA analysis would be completed on any new pit site proposal.

   Continued closure of WSAs (140,260 acres) and designated recreation sites (1,450.76 acres) would limit the availability of pit sites, but is not expected to limit the availability of mineral materials because alternative sites would remain available. Additional closures (Lone Bird and Malm Gulch/Germer Basin ACECs (17,792 acres); riparian areas in steelhead, salmon and bull trout watersheds; suitable WSAs, if released from wilderness review) and restrictions (two SRMAs; twelve ACECs) could limit the availability of suitable material pit sites to meet public demand. A limited availability of suitable sites would increase hauling distances and costs in some instances, because mineral materials may need to be obtained from alternative sites that are farther away from points of use. New applications for mineral material sales and non-energy mineral leases could be denied in remaining ACECs, riparian areas along other fish-bearing streams, and in SRMAs or WSRs, if the actions conflicted with priority resource values. This would also have potential to increase hauling distances and costs. However, the availability of mineral materials would not be significantly affected because suitable alternative sources would remain available throughout the RA (see *Map 37: Saleable Minerals Land Classification*). Alternative pit sites are also available on private lands in the area. Development of materials sites on private lands may reduce hauling distances.

Locatable Minerals

6. Opportunities for locatable mineral exploration and development would be available on 99.8% (791,116 acres) of public lands in the RA, and 94.9% (752,186 acres) of the RA if all WSAs are released from wilderness review. Existing withdrawals of recreation sites (1450.76 acres) from mineral development, and recommendations for withdrawal of suitable WSAs (38,930 acres), if released from wilderness review, would preclude opportunities for locatable mineral development on these areas. It is expected that these withdrawals would have no noticeable effect on mineral development activity in the RA, based on the low potential for locatable mineral occurrence in those areas (see *Map 26: Locatable Mineral Land Classification*.

7. Whenever they are required, preparation of plans-of-operation are likely to increase the time and effort required for claimants to conduct locatable mineral exploration and development.

8. Review and possible modification of locatable mineral development activities in riparian areas on non-fishbearing streams, coupled with design specifications, SOPs, and stipulations on locatable mineral development in riparian areas along fish-bearing streams, would have potential to increase costs associated with locatable mineral development, if development should occur, and limit locatable mineral development in riparian corridors and streams, particularly in watersheds occupied by special status fish species.

9. Opportunities for locatable mineral development on WSR corridors would not be limited, except as required by law or regulation to protect WSR values, or by limitations on locatable mineral development in riparian areas as described in #8 above.

10. Locatable minerals activity away from existing roads and vehicle ways would be limited to non-motorized methods, as a result of off-highway vehicle use limitations. Prior authorization by the BLM would be required for use of motorized vehicles during exploration and development, if the activity is in an area "limited" to existing roads, vehicle ways, and trails. A plan of operations would be required in any area "closed" to OHV use. Obtaining prior authorization or preparing a plan-of-operation is likely to increase the time and effort required for claimants to conduct exploration and development activity.

Cumulative Effects

11. There would be no reasonably foreseeable cumulative effects on energy or non-energy mineral development in the RA. No energy mineral development activity has occurred on adjacent National Forest, State or private lands, nor is any future development anticipated. There are no known deposits of non-energy leasable minerals in the RA.

12. Cumulative effects on mineral material sales would include long term limited availability of mineral materials pit sites in certain special management areas on public lands. Alternative pit sites are expected to be available on private lands and adjacent National Forest lands. Demand for private sources may increase, to offset increased hauling distances. Costs of materials may also increase.

13. Potential future development opportunities may be foregone in areas that are closed to locatable mineral development or where development is restricted to protect other resource values. However, no cumulative effects are expected, based on the low potential for occurrence of locatable minerals in most areas that would be restricted or otherwise withdrawn from development.

Table 4-4: Availability of Lands for Oil and Gas Development Activity, Relative to Resource Potential[1]

Management Categories	Zero Potential	Low Potential	Moderate Potential	High Potential	Total
OPEN: *Subject to standard stipulations*	101,000	568,948	0	0	669,948[2]
OPEN: *Subject to NSO stipulation*	24,000	97,130	0	0	121,130[2]
OPEN: *Mandatory NSO stipulation*	•	•	•	•	•
CLOSED: *Discretionary*	0	1,451	0	0	1,451

[1] Calculated assuming all WSAs (140,260 acres) would be released from wilderness review.

[2] Total includes unknown acreage in salmon, steelhead trout, and bull trout watersheds which would have a mandatory NSO stipulation.

•Riparian areas in salmon, steelhead, and bull trout watersheds would have a mandatory NSO stipulation. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

Table 4-5: Availability of Lands for Geothermal Resource Development, Relative to Resource Potential[1]

Management Categories	Low Potential	Moderate Potential	High Potential	Total
OPEN: *Subject to standard stipulations*	665,798	0	3,350	669,148[2]
OPEN: *Subject to site-specific NSO stipulation*	111,280	0	10,650	121,930[2]
OPEN: *Mandatory NSO stipulation*	•	•	•	•
CLOSED: *Discretionary*	1,451	0	0	1,451

[1] Calculated assuming all WSAs (140,260 acres) would be released from wilderness review.

[2] Total includes unknown acreage in salmon, steelhead trout, and bull trout watersheds which would have a mandatory NSO stipulation.

•Riparian areas in salmon, steelhead trout, and bull trout watersheds would have a mandatory NSO stipulation. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

Table 4-6: Minerals Closures (approximate acres)[1]

Oil, Gas, Geothermal

Recreation Sites	1,451
WSAs	140,260
Total Closures	141,711

Mineral Material Sales

Recreation Sites	1,451
ACECs	17,792
Riparian Areas	+
WSAs	140,260
Total closures	159,503

Non-energy Leasing

Recreation Sites	1,451
Riparian Areas	+
WSAs	140,260
Total closures	141,711*

Locatable Minerals

Recreation Sites	1,451
WSAs	140,260
Total closures	141,711

[1] Acres are approximate, and totals for each type of mineral activity may not take overlapping special management areas into account.

+Riparian areas in salmon, steelhead, and bull trout watersheds would be closed to non-energy leasing and mineral material sales. The total acreage involved would be small, and limited to the width of the riparian habitat area (see PRMP, Attachment 4).

*Recommended for withdrawal from locatable mineral entry.

Paleontological Resources

No Reasonably Foreseeable Effects: No reasonably foreseeable effects to paleontological resources would be expected from decisions listed under the following sections of the PRMP: Air Quality, Biological Diversity, Cultural Resources, Fire Management, Fisheries, Floodplain/Wetland Areas, Forest Resources, Hazardous Materials Management, Livestock Grazing, Minimum Streamflow, Noxious Weed Infestations, Rangeland Vegetation Treatment Projects, Recreation Opportunities and Visitor Use, Riparian Areas, Special Status Species, Transportation, Tribal Treaty Rights, Upland Watershed, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released from Wilderness Review, Wild Horses and Burros, Wildlife Habitat, and Wild and Scenic Rivers.

Summary of Effects

1. Proposed management actions would generally reduce the amount of potential damage to known and possible paleontological resources caused from ground disturbing activities, vandalism, collection, and erosion. Considering paleontological resources in watershed assessments and integrated resource activity plans would help integrate paleontological resource issues into the broader resource management framework.

Direct and Indirect Effects, by Proposed RMP Section

Land Tenure

2. The transfer or sale of lands from Federal to private ownership could affect possible paleontological resources, if they exist in the tract disposed of. Lands containing significant paleontological resources would be retained on a case-by-case basis; there is some risk these lands (or lands with possible paleontological resources) could be transferred from Federal ownership. While some protection is given these resources under Federal ownership, no protection is provided under private ownership.

Areas of Critical Environmental Concern/OHV Use

3. Limiting motorized vehicle use in the Malm Gulch/Germer Basin ACEC to the existing road from Highway 93 to a point of closure in the NW 1/4, Section 28, T12N, R19E would reduce the risk of erosion and possible destruction of known paleontological resources. Closing the area to rockhounding, mineral material collection, and mineral material sales would help preserve the paleontological values associated with the Malm Gulch/Germer Basin ACEC.

Minerals

4. Whenever surface mining is conducted in sedimentary rock, paleontological resources may be affected. However, the reasonably foreseeable development scenario for oil, gas, and geothermal activity during the next 15 years suggests that little or no fluid energy development would occur in the RA. If drilling does occur, no-surface-occupancy and standard stipulations would help protect known and possible paleontological resources in some portions of the RA, including existing ACECs.

5. Site-specific effects of mineral material sales and non-energy mineral leasing would be analyzed through the ID team and NEPA process, which could

help eliminate potential effects on known or possible locations of paleontological resources. New applications for non-energy mineral leases and mineral material sales may not be approved if the minerals are located in or adjacent to existing ACECs, which would further help to protect known paleontological resources. Closing the Malm Gulch/Germer Basin ACEC to rockhounding, collection of mineral materials, and mineral material sales would help protect known paleontological resources in that area from project disturbances.

6. Locatable mineral development would have the potential to affect paleontological resources by causing surface disturbance. Small scale (less than 5 acres) mineral location activities outside ACECs and areas designated "closed" to off-road vehicle use would have the greatest potential impact to paleontological resources, because a plan of operations would not have to be filed, an ID team review would not be conducted, and paleontological resources may not be identified or protected. Paleontological resources would be fully protected on portions of the RA withdrawn from locatable mineral entry, such as campgrounds and recreation sites.

Paleontological Resources

7. The general management and protection of paleontological resources would continue. Paleontological resources would be managed to protect specimens and maintain or enhance sites or areas for their scientific and educational values. Information would continue to be gained by promoting research (under permit) to document localities and their significance. Measures to protect paleontological resources from erosion, vandalism, and collection would be implemented at significant localities that are threatened. Significant paleontological localities would be protected from vandalism and rockhounding activities by not signing to identify their location or otherwise promoting public use of the area. Interpretive signing and a wayside along Highway 93 near the Malm Gulch/Germer Basin area would encourage preservation of known paleontological resources. Formal inventory of paleontological resources would increase knowledge of the resources' locations, characteristics, condition, and trend.

Cumulative Effects

8. The policy for managing paleontological resources on USFS lands is being developed. Once finished and implemented, it could have a cumulative benefit to paleontological resources on BLM lands by increasing protection of the resource in east-central Idaho in general.

   Private land development in areas with high potential for paleontological sites may lead to a cumulative loss of paleontological resource sites and loss of opportunity to study these sites. These real and potential losses of resources on private land make protection of paleontological resources on Federal lands (BLM/USFS) even more important. Increased protection of paleontological resources on BLM lands under the PRMP would help offset losses of the resource from development on private lands.

Recreation Opportunities, Visitor Use, and Off-highway Vehicle Use

Introduction: The Challis Resource Area recreation program has two types of opportunities: (1) *Intensive recreation* is site-specific, usually within a heavily used, developed and/or designated area such as a recreation site and/or a Special Recreation Management Area. (2) *Extensive recreation* is not site-specific, but is generally dependent on a larger, less controlled, dispersed area for the activity, such as backpacking and OHV use. Visits to the RA are likely to continue to increase during the next fifteen years. This increased recreation use of the RA will probably occur due to several factors, including population growth in the region, the Resource Area's rising popularity, and its location near nationally known recreation destinations such as the Sawtooth National Recreation Area, Sun Valley, the Frank Church River of No Return Wilderness, and the Middle Fork of the Salmon Wild and Scenic River.

No Reasonably Foreseeable Effect on Recreation Opportunities, Visitor Use, and OHV Use: Decisions listed in the PRMP under these sections would have no reasonably foreseeable effect on recreation opportunities, visitor use, and OHV use in the Challis Resource Area: Hazardous Materials Management and Tribal Treaty Rights.

Summary of Effects

1. Overall, recreation activities which are not dependent on cross-country OHV use would be enhanced. Conversely, those activities which depend on cross country OHV use would be curtailed. OHV use on existing roads and vehicle ways would be curtailed slightly within SRMAs and ACECs, due to specific area limitations or closures; however, the majority of existing roads and vehicle ways would remain available for OHV use.

   PRMP actions would protect natural and aesthetic values by limiting OHV use to existing roads, vehicle ways, and trails throughout the Resource Area and closing some ACECs to OHV use; by protecting Outstandingly Remarkable (OR) values on WSR segments found suitable or eligible for further study; and by maintaining primitive values in some WSAs, if released from wilderness review.

2. Visitor use of the RA would probably increase commensurate with regional population growth, but the increase attributable to PRMP actions would not be significant.

Direct and Indirect Effects, by Proposed RMP Section

Livestock Grazing/Rangeland Vegetation Treatment Projects

3. Adjustments in livestock use, such as implementation of stubble height requirements and cover and bank shearing criteria, would improve riparian and streambank conditions. These changes would moderately improve the natural and aesthetic values for outdoor recreation experiences. Although vegetation and riparian conditions would improve, the potential for conflict between livestock and humans for high value recreation areas would continue to exist. As natural and aesthetic values improve due to PRMP actions, the presence of flies, dust, and feces associated with livestock would be somewhat less. Eliminating livestock grazing within the

recreation sites named in the PRMP would eliminate this concern within those areas. In extensive recreation areas, the presence of flies, dust and feces would be reduced due to management that would restrict cattle presence in riparian areas.

4. Range improvements such as fences and spring developments would be developed with sensitivity to recreation resources and natural aesthetics. Fencelines and troughs would be designed to minimize their negative impacts on natural aesthetics, sightseeing, and primitive and developed recreation opportunities. Vegetation treatment actions such as prescribed burns or seedings would encourage increased use by wildlife. However, range improvement structures, seedings, and prescribed burns could degrade scenic values slightly, especially in the short term.

Wild Horses and Burros

5. Wild horse viewing areas would generally benefit recreation activities such as photography and sightseeing. Restrictions on OHV use and displacement of viewable and huntable wildlife species (especially big game) by wild horses could negatively impact OHV use, wildlife viewing, and hunting.

Wildlife Habitat

6. Wildlife habitat management activities would continue to provide current levels of viewable and huntable species. Improving site-specific habitats (*e.g.*, by improving water availability, modifying livestock fences, and acquiring wetlands habitat such as the Chilly Slough) could slightly improve recreation quality in those areas by improving vegetative cover, stabilizing streambanks, and increasing numbers of animals, especially bird and big game species. OHV use opportunities would be reduced because of limitations designed to protect wildlife in key areas (*e.g.*, winter ranges and calving and fawning areas) and throughout the Resource Area. Permitted recreation activities such as OHV events and commercial outfitting may be restricted to protect wildlife.

Noxious Weed Infestations

7. Reducing noxious weed infestations would benefit recreation by improving the aesthetics of natural vegetative cover. In the short term, site-specific treatments could reduce the aesthetic appeal of the landscape, especially in designated recreation sites. However, in the long term reducing weed species would improve the natural and aesthetic appeal of a site.

Upland Watershed

8. Actions to improve upland watersheds would improve vegetative cover, water quality and quantity, wildlife habitat, and scenic viewsheds, and thereby benefit the quality of recreation opportunities such as sightseeing, photography, hunting, camping, and wildlife viewing by enhancing the natural and aesthetic values which attract people.

Fire Management

9. Full fire suppression of recreation sites would benefit site-specific intensive use activities, such as camping in campgrounds and other activities dependent on facilities. Recreation resources occurring elsewhere in the RA would also be managed under a full suppression strategy, unless an activity plan was developed to manage the area under a conditional suppression strategy; these resources would also continue to be protected from the

adverse impacts of fire. Locating fire suppression staging areas, fire camps, and other fire incident bases outside riparian areas would decrease the visual impacts to riparian areas, but would likely cause a greater disturbance to upland area viewsheds. However, "light on the land" fire suppression and rehabilitation specifications would mitigate most adverse effects on recreation values which may occur from fire suppression activities.

10. Primitive recreation values could benefit from naturally occurring fire, because a fire-altered landscape is part of the natural experience

Riparian Areas

11. Actions which improve streambanks and vegetative cover in riparian areas would improve recreation opportunities such as wildlife viewing, sightseeing, hunting, fishing, and camping by promoting a more natural and aesthetically pleasing environment. Providing interpretive facilities in some riparian and wetland areas would improve sightseeing, some motorized recreation, and interpretation opportunities in those areas.

Floodplain/Wetland Areas

12. Acquisition of the Chilly Slough wetlands would provide more public access, which would improve activities such as hunting, fishing, and wildlife viewing. Stipulations on new or renewed rights of way for water diversions would help protect the overall recreation experience and benefit stream habitats, visual quality, and recreation opportunities. (Natural-looking riparian areas and streams are attractants to people.)

13. The quality of the camping experience at the Summit Creek recreation site would be degraded tremendously, because camping in a sagebrush flat would be much less appealing aesthetically than being in the riparian area where shade and water are available. However, fishing opportunities could improve slightly as the stream stabilizes and more fish habitat becomes available.

Water Quality

14. Actions which improve water quality would, in general, improve most outdoor recreation experiences because high quality water is a natural attractant.

Minimum Streamflow

15. Acquiring minimum streamflows would provide major benefits to recreation. A guaranteed minimum flow could maintain and improve the quantity and quality of fishing, hunting, camping, and sightseeing opportunities wherever a minimum flow is obtained.

Fisheries

16. Improvement to fisheries habitat would provide substantial benefits to recreation opportunities such as fishing, hunting, wildlife observation, camping, sightseeing, photography, hiking, and backpacking. As fish habitat is improved, the human recreation environment would become more aesthetically pleasing. Riparian areas would become healthier, water quality and quantity would improve, and the impact of cattle grazing would become less noticeable. Improved water quality would likely increase wildlife numbers in riparian areas and the numbers of fishing and hunting opportunities. Projects designed to improve the ecological condition of fish habitat

could require restrictions to access and the types of recreation activities allowed. As a result, on a site-specific basis, recreation opportunities could decline in the short term. Major benefits could be accrued from the acquisition of priority fish habitat, which is often high value recreation land. However, if exchanges are used, disposal of certain tracts could eliminate all recreation opportunities on those tracts.

Land Tenure and Access

17. Land tenure adjustments (*e.g.*, blocking up Federal lands, acquiring access to high value resource lands such as the Chilly Slough wetland and lands adjacent to the Main Salmon River and East Fork of the Salmon River) would continue to benefit recreation overall, especially water-based activities such as fishing, floating, and wildlife viewing, by providing more dispersal of opportunities. However, disposal of certain tracts could result in the loss of extensive recreation opportunities.

18. Acquiring motorized access to certain tracts of land could benefit motorized recreation by providing more access and recreation opportunities such as OHV use, fishing, hunting, camping, and sightseeing. Acquiring non-motorized access would benefit opportunities such as hiking, riding, hunting, fishing, nature observation, and mountain biking.

Wild and Scenic Rivers

19. Maintaining or enhancing OR values on river segments found eligible or suitable would continue to provide benefits to recreation in general, by protecting the values which made the river segments qualify. However, site-specific actions (*e.g.*, habitat restoration and enhancement for fish and wildlife values; cultural and historic site protection) could limit the types of recreation activities allowed.. Segments found suitable with a Recreation classification would not necessarily benefit all recreation opportunities along those segments, because this classification is defined by a high level of development. Segments found suitable with a Scenic classification would benefit both developed and primitive recreation opportunities along those segments. Segments found suitable with a Wild classification would benefit primitive based recreation, but would likely preclude the more developed, OHV-oriented recreation opportunities.

Areas of Critical Environmental Concern

20. Actions to maintain and protect ACEC values within designated Areas of Critical Environmental Concern (ACEC) would benefit most recreation opportunities in those areas. Hunting, fishing, sightseeing, nature observation, and other recreational activities which would not negatively impact protected values would continue to benefit, because good condition ACEC values would attract recreationists. OHV limitations or closures within ACECs would limit OHV use opportunities. Closing the Malm Gulch/Germer Basin ACEC to rockhounding would limit that recreational pursuit in that area.

Wilderness Study Areas - Management if Released

21. Existing primitive recreation values such as naturalness and opportunities for primitive and unconfined recreation and solitude could be degraded in some WSAs released from wilderness consideration. OHV use limitations and

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closures in WSAs released from wilderness review would help maintain primitive values in those areas, but would slightly decrease OHV use opportunities in the RA. Placing no surface occupancy stipulations on suitable WSAs if released would help maintain some primitive recreation values such as solitude, naturalness, and unconfined recreation opportunities. Opening up released nonsuitable WSAs to all forms of mineral development could severely curtail the primitive recreation values that now exist in those WSAs, if mineral development should occur.

Forest Resources

22. Existing primitive recreation opportunities would be reduced in any area opened to timber harvest. Viewsheds could be damaged by the unnatural appearance of a timber cut, especially when associated with road construction. However, timber harvests and associated roads also create views in areas which are heavily wooded. Increased emphasis on regeneration would more quickly restore harvested areas to a natural and aesthetically pleasing condition. Hunting could be enhanced, depending on specific projects. For the short term (up to 2 years) motorized recreation and OHV use could be enhanced by construction of new roads which provide access to previously inaccessible areas. In the long term these roads would be available for non-motorized recreation uses such as hiking, mountain bicycling, and horseback riding. Timber harvest and silvicultural treatments that accommodate wildlife needs would benefit recreation by attracting nongame wildlife for wildlife viewing and by being less visually intrusive.

Special Status Species

23. Actions to manage special status species could enhance recreation activities such as nature observation and photography by maintaining a diversity of opportunities. Potentially, other activities such as hunting, fishing, camping, and OHV use could be curtailed or eliminated, depending on protection strategies. Specific actions to preserve sensitive plant species could restrict the following: (a) recreation activities which cause surface disturbances, such as OHV use; (b) recreation facilities development, such as trails; (c) recreation sites; and (d) trailhead facilities.

Minerals

24. Existing primitive recreation values could be degraded or lost on any site where surface development for mineral resources occurs, at least in the short term, because the on-site development would preclude any recreational use. Associated access roads could enhance motorized recreation if open to the public. Natural and aesthetic values would be lost because of the physical development, at least on-site. Viewshed values would be degraded by the physical development; the extent of degradation would depend on site location and size. Recreation values would be protected on areas stipulated no surface occupancy or closed to mineral development.

Visual Resources

25. Recreation facilities and development would continue to be designed in a manner consistent with the visual classification given an area. This could eliminate certain developed recreation opportunities (such as campgrounds, picnic areas, and boat launches) on a site-specific basis. In VRM Class II areas, developed recreation facilities would have to be much less visible and more in harmony with the natural environment; these requirements may pre-

clude recreation site development in a given area. It is also likely there would be fewer motorized and development-oriented recreational opportunities such as campground camping, day use areas, picnicking, and launch ramps. However, primitive and aesthetic recreation values would be improved, because fewer acres would be managed as VRM Class III and the existing landscape character would be retained on more acres.

Recreation Opportunities and Visitor Use

26. More developed recreational facilities would be constructed, which would benefit developed recreation opportunities such as campground camping, picnicking, and motorized recreation. Developed launches would make more areas available to floaters and powerboaters. Expansion of the Upper Salmon River SRMA and development of the Upper Big Lost River SRMA would negatively impact the more primitive spectrum of recreation activities, such as floatboating, by increasing access to and participation in those activities, but would, over time, expand developed opportunities such as camping and picnicking. OHV use would be negatively affected through closures and limitations on use in order to address resource concerns. However, motorized recreation could benefit from more interpretive opportunities, expansion of the Back Country Byway program, development of a hiking, biking, horse riding, and OHV trail, and greater developed recreation access from expansion of developed facilities.

Off-highway Vehicle Use

27. Limiting OHV use on the entire Resource Area to existing roads, vehicle ways, and trails, and adopting closures or additional limitations on specific areas, would have a major negative effect on OHV opportunities by eliminating cross-country travel and closing some areas to OHV use. However, this would have a major positive effect on recreation activities not dependent on OHV travel. Hunting, fishing, primitive camping, hiking, and backpacking opportunities would be expanded, although access to those activities could be much more difficult.

Cultural Resources

28. Protection of cultural resources would enhance recreation opportunities such as interpretation and hiking. In general, continued protection of cultural resources sites would not have a negative impact on recreation, except in site-specific cases where cultural resources protection would eliminate recreation facility development or limit or foreclose activities such as OHV use. Designation of the Lone Bird ACEC for the protection of cultural resource values would eliminate OHV use and rockhounding activities in that area; however, designation would enhance interpretive recreational opportunities.

Paleontological Resources

29. Protection of paleontological resources would enhance recreation opportunities such as interpretation and hiking. Designation of the Malm Gulch/Germer Basin ACEC for the protection of paleontological values would reduce OHV use and eliminate rockhounding activities in that area; however, designation would enhance interpretive recreational opportunities.

Transportation

30. In general, continued transportation management would provide benefits to recreation by providing access to public lands for recreation uses such as camping, hiking, hunting, and wildlife viewing. However, the presence of roads throughout the RA would degrade or eliminate primitive recreation, camping, hunting, and wildlife viewing in those road corridors because of continued motor vehicle use. Design, construction, and maintenance of roads to meet or exceed State-approved BMPs would benefit recreation by providing the highest safety standards for the recreating public. Development of a Transportation Plan and Maintenance Plan through the ID team planning process would facilitate road/trail management which considers the needs of recreation resources, as well as other RA resources and programs. Continuing to allow new road construction for campground development would benefit developed recreation opportunities.

Biological Diversity

31. Biodiversity actions would increase the presence and abundance of native plants and animals, thereby enhancing wildlife viewing, hunting, interpretive, and photography opportunities.

Air Quality

32. Existing high air quality would be maintained, thus enhancing outdoor recreation experiences.

Cumulative Effects

31. Overall, the cumulative effects of BLM actions on recreation opportunities would be continued growth of recreation use and increased demand for more diverse opportunities. There would likely be more conflict between users, especially hunters, anglers, and boaters, since these opportunities are most popular. Natural and aesthetic values would improve, which would help improve the quality of the recreation experience.

32. Forest Service activities would continue to have effects on BLM recreation, since access to opportunities is almost indistinguishable. USFS designations of a National Recreation Area, Wilderness, and Wild and Scenic Rivers further focuses attention on this region. As adjacent National Forests become more heavily used by recreationists, the demand for opportunities on BLM public lands are also expected to increase.

33. Local private land uses for agriculture, communities, and rural residences could benefit some recreation activities that are dependent on viewable and huntable wildlife species, since cultivated crops attract wildlife closer to existing roads. However, conversion of hay grounds into residential subdivisions and the growth of communities could reverse this trend. As more people visit and use the area and private land is developed, recreation opportunities on private land would be reduced and/or changed. In addition, fewer land owners are likely to grant access to the general public, especially along highly prized riparian areas. As access to opportunities on private lands diminishes and the demand for recreation opportunities exceeds the supply, both intensive and extensive recreation opportunities on BLM land are likely, over time, to become more developed.

Soils

No Reasonably Foreseeable Effect to Soils: No reasonably foreseeable effects to soils are expected from the management decisions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Land Tenure and Access, Minimum Streamflow, Paleontological Resources, Tribal Treaty Rights, Visual Resources, Water Quality, Wildlife Habitat, and Wild and Scenic Rivers.

General Discussion of Effects to Soils: Soil erosion is a natural process. Accelerated erosion occurs when soils erode faster than they are formed. Accelerated erosion typically begins as a lateral flow of sheet erosion. If left unchecked, these flows form channels, becoming rill erosion, which eventually leads to gully erosion. Many soil properties, both physical and chemical, dictate the susceptibility a particular soil has to accelerated erosion. All soils need protection from wind and water erosional forces. Vegetation and surface coarse fragments are the primary protective agents of rain drop impacts and water erosion. In addition, microbiotic crusts often play an important role in protecting soils in lower precipitation zones, where vegetative cover is sparse. When protection is lacking, rain drop forces dislodge surface soil particles, making them susceptible to the forces of moving water. If unchecked by live vegetation, litter or coarse fragments, channelized water flows develop, resulting in accelerated erosion. Rills and gullies often make their way to stream channels, supplying sediment to riparian and aquatic habitats, and resulting in direct and indirect impacts to fish viability and habitat condition. Soil compaction results when activities (*e.g.*, off road vehicles, livestock grazing) occur on moist soils. Compaction layers exacerbate soil erosion by restricting water infiltration and by modifying the soil's ability to capture and hold water for plant uptake or for ground water supply. This modification of the natural soil/water relationship can lead to alterations of the natural plant community, resulting in less vegetative cover available to protect the soil.

Management actions described in the PRMP are not expected to stop soil erosion, but rather, to minimize the threat of accelerated erosion through improved management of vegetation, microbiotic crusts, soil cover, and surface disturbing activities.

Summary of Effects

1. Management actions intended to protect vegetation and other resources would improve soil stability, condition, and trend. Improved upland and riparian vegetation conditions would have immediate and sustained soil stabilizing effects. Susceptibility of soils to compaction, erosion and the disruption of microbiotic crusts would receive greater consideration when planning resource use activities. In general, the soil resource would be maintained in the short term and likely improve over the long term.

2. Some site-disturbing activities such as road construction would cause an irreversible and irretrievable commitment of soil resources on a localized basis. However, the likelihood of new road construction or other major soil-disturbing activities is small.

Direct and Indirect Effects, by Proposed RMP Section

Livestock Grazing

3. Allotments identified as priority allotments to determine proper stocking level would receive attention to rapidly address riparian and floodplain functioning problems that exist within some of those allotments (see ***Chapter 4*** - Fisheries - *Table 4-3* (p. 368)). Improved riparian conditions in these streams would improve water storage capability, flood energy dissipation, flood attenuation functions, and overland flow filtering capabilities (and consequently the floodplain-building function of the riparian system). Improvements in riparian and floodplain condition and function would lead to improved soil stability and reduced compaction and erosion potential.

   Upland soils would likewise benefit from prioritizing stocking level adjustments. Grazing intensity and use patterns would be modified to provide more vegetative litter to protect soils from erosion and compaction, through improved plant health, vigor, and long term productivity. More emphasis would be placed on protecting microbiotic crust populations where these organisms play a significant role in soil protection.

4. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve water quality, support beneficial uses, and improve riparian condition. Improvement to riparian areas would improve soil stability, reduce compaction and erosion potential, and improve the overland flow filtering capabilities of these areas and the floodplain building function of the riparian system.

5. Retaining nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled until watershed, wildlife, and aquatic habitat objectives are met would help accelerate improvement in soil stability and soil cover within watersheds where this occurs.

6. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. Improved distribution would create more even utilization of the forage resource and limit the creation of overgrazed, unvegetated, compacted, sediment-producing zones within a pasture, thus reducing the threat of soil erosion and impacts to microbiotic crusts.

7. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, (b) protect soil surfaces from excessive runoff events, and (c) reduce overland flows and sediment transport. Increased consideration of the effects of new soil disturbing actions on soil compaction, erosion and microbiotic crusts would reduce upland sediment transport and riparian soil compaction.

Wild Horses and Burros

8. To some extent, maintaining existing wild horse numbers would continue to impact soil condition in selected riparian portions of the Herd Management Area (HMA) through soil compaction on moist riparian soils, streambank shearing through hoof action, and removal of vegetative soil protection. However, other actions in the PRMP (*e.g.*, livestock grazing management, riparian area management) would help mitigate adverse effects by improving vegetative cover and reducing compaction and shearing of moist riparian soils in the HMA. In addition, modifications to wild horse numbers may be implemented when adverse impacts to riparian and upland soils can be attributed to wild horses. Wild horse numbers would continue to be closely monitored and controlled in known areas of fragile soils within the HMA (Malm Gulch, Sand Hollow), to mitigate adverse effects to soil resources from grazing and trampling of vegetation.

Riparian Areas

9. Stubble height and bank shearing criteria on streams indirectly limit livestock presence in riparian areas, and would improve riparian habitat by ensuring that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. Improved riparian conditions would improve floodplain storage capacity, flood energy dissipation, flood attenuation functions, overland flow filtering capabilities, and the floodplain building function of the riparian area, thus reducing sediment movement from the area. It would create a dynamic self-healing system that minimizes sustained erosion loss of streambanks.

10. Increasing public awareness of the value of good condition, functional riparian and wetland habitats would help land users become more knowledgeable about and sensitive to these issues. As land users modify their actions to be less of an impact on riparian and wetland areas, soil stability would improve and soil compaction of these areas would decrease.

11. Development of riparian study areas would help evaluate applied management strategies for riparian vegetation improvement (which benefit soils conditions) and identify potential bulk densities for uncompacted soils. Inferences may also be made to the potential soil conditions on like soil types within the RA.

12. Increased emphasis on riparian pasture development (and greater control of riparian forage and soil conditions in these pastures) would improve soil stability and reduce bank erosion and soil compaction problems in these typically wet and susceptible soils.

Floodplain/Wetland Areas

13. Proposed actions which would have adverse effects on floodplains or wetlands would be denied, and development of floodplain and wetland areas would be discouraged by withholding any support for development of these areas where practicable and requiring protection of the beneficial functions of these areas if developed. Protecting the vegetation and landform characteristics of these areas which improve the infiltration, filtration, flood attenuation, and stability characteristics of a stream system would help retain

soils in place and reduce sedimentation.

Fisheries

14. Management actions intended to protect crucial habitats for designated priority fish species and achieve aquatic habitat objectives would, by associated vegetation improvements, reduce sedimentation and compaction and improve the soil stability of stream systems and upland watersheds.

Fire Management

15. In full suppression areas, impacts from fire suppression activities are likely to occur from vegetation removal and soil disturbance, resulting in increased soil erosion. However, the application of the Minimum Impact Suppression Tactics (MIST) Guidelines (Attachment 9) and other PRMP actions would help mitigate impacts resulting from fire suppression activities, especially in WSAs. Rehabilitation specifications would accelerate recovery of disturbed riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation efforts in other localized areas *(i.e.*, uplands) would be implemented as necessary to rapidly revegetate soil types prone to erosion.

    Full suppression would reduce the immediate threat of accelerated soil erosion resulting from large scale burning of vegetation and microbiotic crust soil cover. However, suppressing fires also increases the risk of large uncontrollable fires that would result in large scale burn areas susceptible to widespread accelerated soil erosion.

16. In conditional suppression areas, similar fire suppression impacts would occur and similar MIST Guidelines criteria would apply. Suppression impacts are expected to occur at a reduced level since suppression activities would be more flexible and controlled. Conditional suppression activity plans would consider vegetation and soil disturbing effects by identifying and controlling fire in plant communities with a high risk of fire effects (*e.g.*, cheatgrass, microbiotic crust populations) and including burn prescriptions to allow cooler, mosaic type burns, resulting in reduced threats to widespread accelerated soil erosion. The risk of large, uncontrolled fires may decrease over the long term as more small fires are allowed to burn.

Transportation

17. Restrictions on new road construction in riparian areas would minimize soil disturbance on these sensitive soils. Evaluation and appropriate modification of existing roads would reduce the sediment discharge that may currently exist. New roads built on upland slopes would be designed to reduce the potential for increased upland soil movement.

18. Focusing road maintenance on areas with the greatest potential for erosion or soil instability would reduce potential soil losses. Road construction and maintenance activities would be reviewed by appropriate staff specialists, and meet or exceed minimum standards contained in State-approved BMPs for road construction and maintenance. These limitations and reviews would minimize soil loss from constructed roads that are most sensitive to soil movement. Design specifications for road maintenance are intended to eliminate increased sedimentation.

Rangeland Vegetation Treatment Projects

19. In the short term (two to five years) vegetation treatment projects have the potential to increase soil loss by removing existing ground cover through treatments such as plowing or burning. However, an objective of the vegetation treatment project would be to maintain or increase vegetative cover, thereby reducing the potential for soil erosion in the long term.

Noxious Weed Infestations

20. Control activities to eliminate pure stands of noxious weeds could result in unprotected soils and some soil erosion. However, treatment areas would be seeded with perennial species within 8 months to provide adequate ground cover to minimize the potential for accelerated soil erosion.

Forest Resources

21. Reducing the commercial timber base by approximately 24% would maintain some forest lands in an undisturbed condition, reducing the potential for soil compaction, disturbance, and erosion from those lands. In forested areas where harvest does take place, the management practices and design specifications identified are expected to adequately protect the soil resource from adverse soil loss. Roads and skid trails associated with timber harvest activities would typically not be constructed in riparian areas or buffer strips, to protect sensitive soils. Water bar standards of the Idaho Forest Practices Act would minimally protect the soil resource from excessive erosion. Increased flows that could cause soil erosion would probably not occur on harvested areas limited to 10 acres or less, although erosion hazards are somewhat increased on larger sized harvest areas.

Recreation Opportunities and Visitor Use

22. The expanded recreation facilities proposed to accommodate increased recreation demand would cause increased compaction and could cause increased sedimentation in, and adjacent to, campground and casual use areas. However, these impacts could be monitored and controlled at the developed use sites. Further development of recreation facilities in riparian areas would be curtailed, protecting those fragile soils from further compaction or erosion. Casual use areas identified for closure or hardening would reduce sedimentation to adjacent streams. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation and soil compaction than the proposed recreation development.

Off-highway Vehicle Use

23. OHV use limitations and closures throughout the RA would nearly eliminate new sedimentation and compaction impacts from off-road vehicle travel. Limiting OHV use to existing roads and vehicle ways would allow mitigation efforts to focus on maintaining existing roads and trails, in order to minimize existing adverse sedimentation effects. The stated exceptions to the OHV limitations may result in some surface soil disturbance, soil compaction, and disruption of microbiotic crusts in isolated instances. However, the potential for accelerated soil erosion would be minimal.

Areas of Critical Environmental Concern

24. Management actions to maintain ACEC values would directly or indirectly benefit the soil resource values within, and adjacent to, ACECs by maintaining and improving overall vegetation conditions and soil cover within ACECs. OHV use restrictions and closures would protect the soils from OHV-caused compaction and soil instability. Restrictions on timber harvest methods would protect the stability and condition of the soil resource in forested habitats. Livestock grazing closures would directly protect vegetation and soil cover, and reduce soil compaction.

Wilderness Study Areas - Management if Released

25. Suitable WSAs, if released from wilderness review, would primarily be managed to maintain their primitive values. Mineral closures and/or stipulations, timber harvest closures, and OHV use restrictions and road closures would be implemented according to decisions described in the PRMP. These restrictions would continue to protect the soil resource in these areas from surface disturbance and soil compaction.

    Nonsuitable WSAs, if released, would allow somewhat less restricted timber harvest, mineral development, and OHV activities. However, helicopter logging requirements, OHV limitations and closures, and standard stipulations on mineral development would provide adequate protection to soils by maintaining soil cover and preventing compaction, thereby reducing the threat of accelerated soil erosion. Impacts from continued livestock grazing would be as described in analysis points #3 through 8 above.

Minerals

26. Restrictions on road construction for minerals exploration and development would reduce the potential for sedimentation and soil erosion.

27. The potential for energy mineral development within the RA is low, and therefore the likelihood of impacts to soils from energy mineral development is also low. If oil, gas, or geothermal development occurs, various stipulations, when applied, would minimize the potential impacts to soil stability, compaction, and toxic contamination from oil, gas, and geothermal development actions in selected areas (*e.g.*, ACECs; SRMAs; riparian areas in salmon, steelhead, and bull trout watersheds). Lack of mandatory NSO stipulations in some riparian areas would create the potential for disturbance to vegetation communities which provide soil stability in riparian areas; protection of soil resource values would depend on ID team review and application of appropriate standard lease stipulations. Throughout the Resource Area, unless the mandatory NSO stipulation applies, the possibility exists that soils may be adversely affected by vegetation removal, compaction, sedimentation, and toxic impacts of oil, gas, and geothermal development.

28. There are no known deposits of non-energy leasable minerals in the RA; therefore, there are no reasonably foreseeable impacts to soils resources from non-energy mineral development.

29. Limitations and closures on mineral material sales would protect existing soil conditions from soil disturbance impacts of mineral material disposal. Closing riparian areas in salmon, steelhead, and bull trout watersheds to mineral material sales would eliminate potential adverse impacts to sensitive riparian soils in these areas. In other riparian areas, stipulations requiring operators to not hinder attainment of desired riparian and aquatic habitat conditions would protect the soil resource from excessive disturbance and compaction. In other portions of the RA, protection of the soil resource from adverse effects of saleable mineral development would generally be dependent on ID team review on a site-specific basis. Removal of soil cover, surface soil disturbance, and soil compaction are likely to occur and lead to localized soil erosion.

30. Maintaining the withdrawn status of recreation sites from locatable mineral entry would have a small benefit to soil conditions because of the small acreage involved. Withdrawing suitable WSAs, if released from wilderness review from locatable mineral entry would protect existing soil resources from impacts of mineral location in those areas. Mineral location activities which do not require a plan of operations (less than 5 acres and outside an ACEC or area closed to OHV use) would negatively impact the soil resource through removal of vegetation, soil disturbance and potential toxic contamination. Larger mineral location activity or activity within an ACEC or area closed to OHV use would be required to file a plan of operations and be subject to ID team review. Effects on the soil resources would vary, depending on the scope of the project and outcome of ID team review. Some additional protection of the soil resource could be provided through preparation of the plan of operations; however existing laws allow a high degree of flexibility to the mineral locator. Negative impacts to the soil resource could still include removal of vegetation and soil disturbance, soil compaction, and toxic contamination. Required reclamation actions associated with large scale mineral material location actions would mitigate some of the adverse impacts in the long term.

Hazardous Materials Management

31. Hazardous materials management decisions would minimize the chance and severity of hazardous materials toxic contamination impacts to soils.

Cumulative Effects

32. PRMP actions to improve management of upland and riparian vegetation communities in the RA would cause a sustained improvement in soil stability and reduce site-specific soil compaction problems. Improved vegetation conditions would be expected to maintain or improve soil health and function and reduce soil instability and movement. A general improvement in overall soil condition over the long term would be expected.

33. Forest Service and State land management practices are also being modified to improve soil conditions. As these practices continue to occur, sedimentation, and high runoff potential from these lands would be decreased and consequently have less impact on soil conditions on BLM lands. This would tend to reduce the cumulative impacts to soil disturbance which occur

on BLM lands.

34. The largest use of private lands within the boundaries of the Challis Resource Area has been agricultural use supporting the livestock industry within the area. These uses on private lands may produce soil loss on BLM lands along stream segments downstream of the private lands. The soil loss on BLM lands may be a result of stream alteration or bank stabilization projects or vegetation removal activities on private lands which cause a change in the streamflows and subsequent bank erosion on BLM segments of the stream.

    Mineral development on private lands is a potential concern to soil resources on BLM lands. Mineral development on private land could cause increased soil erosion, gullying, and sediment loads on downstream BLM stream segments and adjacent uplands.

    A minor impact to the soils resource on BLM lands may occur from toxic chemical use, storage, or disposal on private lands. The use of toxic materials on private lands is generally greater than on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps are all potentially hazardous situations which may occur on private lands. An impact to soil resources on BLM land may occur if toxic substances migrate from the private lands to BLM lands.

Tribal Treaty Rights

Introduction: Members of the Shoshone-Bannock Tribes and other Federally recognized Indian tribes exercise their hunting, fishing, and gathering rights on Federal lands outside the boundaries of their reservations, including public lands within the Challis RA and adjacent USFS lands. These pursuits include fishing for anadromous and resident game fish species, hunting large and small game, and gathering natural resources for subsistence and medicinal purposes.

Mitigated Effects: Consultation with appropriate Native American groups is proposed to ensure that all anticipated effects on treaty rights and trust resources are addressed in the planning, decision, and operational documents prepared for each proposed BLM action. Consultation can help protect treaty rights and trust resources by providing valuable information from tribal members concerning areas and resources important to the tribes in general. Consultation can also help ensure that areas important to the Native American communities are not inadvertently transferred from Federal ownership, or physically modified in such a way as to restrict or deny access for Native American Indians to use trust resources in a certain area. Through meaningful consultation, the resources that are important to Indian tribes can be better managed and protected.

Summary of Direct and Indirect Effects: As discussed above, effects on the pursuit of tribal treaty rights are expected to be mitigated during the activity and project planning process, and adverse effects, if any, are not expected to be significant. However, decisions in the PRMP which positively or negatively affect opportunities for hunting, fishing, or gathering natural resources in general could have an effect on the pursuit of tribal treaty rights. These effects are, for the most part, unknown because little information is available on the Federally recognized tribes' preferences (species and locations) for hunting, fishing, or gathering. The Chapter 4 discussions of environmental consequences for "Fisheries," "Vegetation," and "Wildlife Habitat" describe the effects of PRMP decisions on the three resources which may be of particular interest to persons concerned about tribal treaty rights.

Any transfer of public lands to private ownership could affect the tribes' ability to practice their tribal treaty rights on BLM lands. Land tenure actions could also block access to areas needed to practice tribal treaty rights, unless easements or covenants are negotiated to retain access.

Vegetation

No Reasonably Foreseeable Effects to Vegetation: No reasonably foreseeable effects to the vegetation resource are anticipated from the actions listed in the PRMP under these sections: Air Quality, Cultural Resources, Hazardous Materials Management, Minimum Streamflow, Paleontological Resources, Tribal Treaty Rights, Visual Resources, and Water Quality.

Effects to the vegetation resource are described below under one or more of the following categories: **Summary of Effects**, **Direct and Indirect Effects, by Type of Vegetation Affected and PRMP Section** (includes impacts to upland vegetation, riparian vegetation, special status plant species, and noxious weeds), and **Cumulative Effects**. Although impacts are described under one of these categories, effects may also occur under one or more other categories.

Summary of Effects

1. Adjusting long term livestock stocking rates would lead to progress toward achieving BLM vegetation goals. Watershed assessments completed during project or activity planning would consider the impacts of all factors affecting the vegetation resource and would ultimately improve vegetation. Criteria for vegetation treatments would ensure that the treatments accomplish the goals for which they were designed. More restrictive OHV limits would reduce vegetation damage throughout the Resource Area and reduce the spread of noxious weeds. Increased emphasis on riparian improvement would improve riparian conditions. Increased knowledge of special status plant species, the role of biodiversity, and the extent of old growth forested areas would enhance the BLM's ability to improve watersheds and protect those values. A more aggressive approach to noxious weed control would help limit the spread of noxious weeds and improve vegetation conditions. Use of prescribed fire to meet overall ecosystem goals would improve vegetation composition, vigor, and production.

Direct and Indirect Effects, by Type of Vegetation Affected and PRMP Section

Upland Vegetation

Livestock Grazing

2. In the short term, allocations for livestock, wild horses, and wildlife would remain the same; however, in both the short and long term, actions such as utilization and cover requirements could result in active livestock use up to 12,657 AUMs less than active preference. This would result in less livestock impact to upland vegetation, resulting in improved plant vigor and movement toward meeting vegetation goals of the RMP. In the long term, stocking rates would be brought into line with forage production, thus moving vegetation condition closer to the stated goals (see PRMP: Livestock Grazing, Goal 1).

3. Areas closed to livestock grazing (about 21,343 acres) would continue to improve in ecological condition, thus helping to meet vegetation goals.

4. Utilization criteria for upland sites, specific by key species and phenological stage, would accelerate improvement of upland plant health and vigor by

requiring that livestock be moved when a specific seasonal utilization level has been reached.

5. Managing for late seral to Potential Natural Community (PNC) as the Desired Plant Community (DPC), unless an ID team selects otherwise, would ensure vegetation goals are met. When an ID team decides some other DPC is more desirable, ecological needs would be assessed to ensure vegetation goals are met.

6. Splitting or combining allotments to help meet riparian and upland objectives could improve grazing management and vegetation composition, vigor, and production.

7. Holding retired, cancelled, or other nonuse AUMs for nonconsumptive uses until allotment vegetation objectives are met would mean those AUMs would be available for plant vigor and maintenance; overall vegetation condition would benefit.

8. Managing all watersheds in the RA to achieve vegetation cover standards would ensure plant vigor and reproduction, proper water infiltration, less erosion, better conditions for seedings, and a more favorable microclimate around plants.

9. For the short term, managing under current AMPs with PRMP utilization and riparian stubble requirements would produce a more rapid rate of vegetation improvement than in the past. For the long term, watershed assessment to determine vegetation needs, monitoring to determine proper stocking levels, and completion of Integrated Resource Activity Plans would ensure vegetation improvement to achieve vegetation goals.

10. Allocating additional forage made available as a result of seedings, burns, range improvement projects, or seasonal variations for non-livestock grazing purposes until allotment management objectives are reached would improve the likelihood of achieving vegetation goals.

11. Rangeland prescribed burning to meet ecosystem objectives would move burned areas into an earlier seral stage by removing sagebrush cover. This would allow water and nutrients to be more available for existing grasses and forbs, and would increase their vigor and cover. Land treatments to achieve multiple resource objectives would improve vegetation conditions overall.

Wild Horses and Burros

12. Managing for a herd of about 185 to 253 wild horses would have localized impacts to upland vegetation through grazing and trampling. If monitoring indicates this number of wild horses is shown to damage the vegetation resource, the Herd Management Area Plan would be modified to allow management of fewer horses. Allowing wild horses to use the Malm Gulch and Sand Hollow areas (as long as resource damage does not occur) would enable the BLM to gather horses that are causing damage elsewhere, thus

improving upland vegetation.

Wildlife Habitat

13. Encouraging the IDFG to maintain big game numbers at current levels, unless habitat data show greater numbers can be supported without resource conflicts, would maintain or enhance current vegetation conditions. Monitoring wildlife habitats would ensure that wildlife populations do not damage the vegetation resource.

14. Continuing to implement the Willow Creek Summit and East Fork Salmon River Habitat Management Plans would have positive impacts to upland vegetation.

Rangeland Vegetation Treatment Projects

15. Determining the priority and need for vegetation treatment projects through the ID team and activity planning process, would help ensure that projects are considered in an overall multiple use context and would be expected to result in management changes to enhance upland vegetation condition, as well as biodiversity.

16. Actions to manage vegetation treatment projects (a proportionate reduction in livestock use, establishment of success standards, post-treatment management plans, and criteria on post-treatment increases in grazing preference) would ensure that Resource Area-wide vegetation objectives are being met.

Fire Management

17. Suppression of all fires (except in WSAs) would result in areas of heavy sagebrush canopy, leading to large areas with little vegetation diversity. Unplanned fires would have the potential to increase the invasion of cheatgrass; however, the potential for this is low, since few wildfires occur with the Resource Area. In conditional fire suppression areas wildfire could lead to (a) a better mosaic of vegetation on the landscape, and resulting improved biodiversity; and (b) improved soil nutrient cycling, reduced competition for nutrients, water and sunlight among remaining plants, and resulting improved vegetation vigor. PRMP decisions to consider the potential for cheatgrass invasion would help ensure such invasion does not occur. Restrictions on fire suppression activities would protect areas from erosion and benefit vegetation. Rehabilitation of burned areas to prevent erosion would preserve the soil and improve vegetative cover.

Wild and Scenic Rivers

18. Actions to maintain OR values and free-flowing characteristics along the WSR corridors of the 10 segments found eligible for suitability study and 5 rivers found suitable for WSR designation would have little impact to upland vegetation because the WSR corridor is so narrow.

Areas of Critical Environmental Concern

19. Continued designation of existing ACECs and designation of new ACECs would have minor positive impacts to about 88,206 acres of upland vegetation, by highlighting management in those areas to protect vegetation communities.

Wilderness Study Areas - Management if Released

20. Watershed assessment and development of resource objectives for areas released from wilderness review, prior to development of range improvements, would ensure protection of vegetation values by considering all resource needs. Construction of range improvement projects in WSAs if released from wilderness review would potentially improve vegetation as a result of better livestock distribution. Vegetation may also be subject to greater levels of trampling and grazing on sites in close proximity to new range improvement projects.

Forest Resources

21. Commercial timber harvest would have significant impacts to upland vegetation in localized areas. Limiting clearcut size to 10 acres in Douglas-fir types would result in more, smaller cutting units and a higher likelihood of natural regeneration to native vegetation. Shelterwood cuts in Douglas-fir stands would result in impacts similar to clearcutting, except shelterwood cut units would seed in more quickly due to increased seed source and shading. In the long term, these areas would be regenerated naturally or artificially, resulting in eventual reversion back to vegetation with vertical structure similar to the original stand. Use of an ID team to plan projects would reduce vegetation impacts from forest management activities. Protection of 980 acres of old growth would preserve these unique areas and their values. For other impacts to forested areas from forest management actions, see ***Chapter 4*** - Forest Resources.

Minerals

22. Due to the low potential for energy minerals in the Challis RA, the likelihood of impacts to vegetation from oil, gas, or geothermal development is also low. Upland vegetation would be protected in areas where standard stipulations are applied to protect resource values. Upland vegetation in areas with a mandatory "no surface occupancy" stipulation (suitable WSAs, if released) or closed to energy mineral leasing (existing WSAs; campgrounds and recreation sites) would be fully protected from the impacts of energy mineral leasing.

23. There are no known deposits of non-energy minerals in the RA; therefore, the likelihood of impacts to upland vegetation from non-energy leasing is considered very low.

24. Development of mineral materials sites would have disturbance impacts to upland vegetation in small, localized areas.

25. Locatable mineral activities would only have minor disturbance impacts to upland vegetation, unless another major mine of the scale of the Thompson Creek Mine was developed.

Off-highway Vehicle Use

26. Limiting OHV use on the entire RA to existing roads, vehicle ways, and trails, and closing additional areas to OHV use would protect upland areas throughout the RA from rutting, erosion, and vegetation trampling damage from OHVs.

Riparian Vegetation

Livestock Grazing

27. Incorporating knowledgeable and reasonable practices to maintain water quality and support beneficial uses would result in improved management of riparian areas. Use of riparian stubble height and bank shearing criteria to move livestock from pastures would help ensure achievement of properly functioning riparian zones and meet RMP goals for riparian vegetation.

28. Continuing existing management of the Anderson Ranch riparian pasture should ensure slow improvement of riparian vegetation in this area. Increased emphasis on development of other riparian pastures throughout the Resource Area would ensure improvement of riparian vegetation in those pastures and in areas to which knowledge gained from these pastures is applied.

29. Locating new and existing livestock handling facilities outside of riparian areas would protect these areas and allow riparian recovery.

30. For the short term, managing under current AMPs, with RMP utilization and riparian stubble height requirements, would produce a more rapid rate of riparian vegetation improvement than currently occurs. For the long term, watershed assessment to determine riparian condition, trend, and management needs would ensure riparian vegetation improvement.

Riparian Areas

31. Maintaining existing riparian exclosures and constructing some new ones would improve some riparian areas and provide information that could be used to improve other areas

32. Road construction and campground development limits would minimize impacts to riparian areas from roads and increased human activities.

33. The "no net loss" policy of like riparian values would ensure that the net amount of valuable riparian vegetation within the Resource Area would not be diminished. Other riparian and wetland areas, if transferred out of public ownership, would have covenant language in the deed to protect wetland values and vegetation. Moving the Summit Creek campground from the riparian area would protect riparian and special status plant values in that area, by reducing the possibility of human-induced disturbance.

Floodplain/Wetland Areas

34. Not allowing development actions which would cause adverse effects to floodplains or wetlands would protect riparian vegetation.

Wild Horses and Burros

35. Managing for about 185 to 253 wild horses would have localized impacts to riparian vegetation. If monitoring indicates this number of wild horses is shown to damage the riparian resource, the HMAP would be modified to allow management of a lower number of horses. Adjusting wild horse numbers if riparian and aquatic habitat standards are not met would improve riparian conditions within those watersheds in the Herd Management Area.

Fisheries

36. Attainment of desired riparian and aquatic habitat conditions would ensure meeting riparian vegetation goals.

37. Reintroduction of native wildlife species would have the potential to cause riparian impacts if beaver are reintroduced into streams within the Resource Area. Use of the ID team process should ensure that only positive impacts to riparian areas result.

Fire Management

38. Locating fire control facilities outside of riparian areas would help protect those areas from minor, short term trampling and mechanical damage associated with fire control activities. Limits on the use of fire retardant and heavy equipment for fire control would also protect riparian areas. Fire rehabilitation designed to achieve desired aquatic and riparian conditions would limit riparian degradation.

39. The use of prescribed fire to enhance ecosystem health and functioning would result in riparian vegetation improvement.

Land Tenure and Access

40. Eliminating unauthorized use of public lands through reclamation of agricultural or occupancy trespasses would have the potential to restore native riparian vegetation to some localized areas. Over the life of the RMP, up to about 63,075 acres of public land would be available for disposal (including up to about 4,806 acres which could be sold). The actual amount of land that would be transferred out of public ownership would be anticipated to be much lower. These transfers to private or State ownership could result in some type of vegetation conversion.

Wild and Scenic Rivers

41. Management to protect OR values and free-flowing status on the 15 eligible or suitable segments would help protect riparian values along those WSR corridors.

Areas of Critical Environmental Concern

42. ACEC designation would enhance riparian vegetation in the East Fork Salmon River Bench, Malm Gulch/Germer Basin, Thousand Springs, Birch Creek, Donkey Hills, Dry Gulch, Pennal Gulch, Herd Creek Watershed, and Summit Creek ACECs.

Wilderness Study Areas - Management if Released

43. Watershed assessment and development of resource objectives for areas released from wilderness review, prior to development of range improvements, would ensure protection of riparian vegetation by considering all resource needs.

Forest Resources

44. Restrictions on commercial timber harvest, firewood cutting, and tree cutting in riparian areas would reduce impacts to riparian vegetation.

Minerals

45. For riparian areas in salmon, steelhead, and bull trout watersheds, mandatory NSO stipulations on energy mineral leases, closure to mineral material sales and extraction and non-energy leasing, and special design and opera-

tion of locatable mineral facilities would help protect these riparian areas. For riparian areas within other fish-bearing streams, minerals actions would be designed, constructed, and operated so as to not hinder the attainment of desired riparian and aquatic habitat conditions. This is expected to provide protection to riparian vegetation.

Recreation Opportunities and Visitor Use

46. Recreation actions could potentially impact riparian vegetation in localized areas through use of existing campgrounds and construction or upgrading of semi-developed campgrounds. Continued use of casual use areas, particularly along the Salmon and Big Lost rivers and Summit Creek, would also impact riparian vegetation through vegetation trampling by vehicles and people. River access facilities for floatboating would impact riparian vegetation by increasing human activities in those areas.

Off-highway Vehicle Use

47. Limiting OHV use to existing roads, vehicle ways, and trails throughout the RA would benefit riparian vegetation by limiting the amount of damage these types of vehicles can cause in riparian areas.

Special Status Plant Species

Special Status Species

48. Increasing the rate of inventory of special status plants from about 2,000 acres to about 3,000 acres per year would increase knowledge of these plant species. Requiring a site-specific field assessment of special status plant species as part of the assessment of all authorized actions would ensure protection of these vegetation resources. Moving the Summit Creek campground from the riparian area would help protect special status plant values in the area. Data files, inventories, and field assessments of non-vascular and special status plants, species management plans, and cost-share partnerships would help ensure protection of special status and non-vascular plant values, by highlighting management of these types of plants.

Areas of Critical Environmental Concern

49. Designation and management of the Malm Gulch/Germer Basin, Summit Creek, Dry Gulch, Pennal Gulch, Herd Creek Watershed, Sand Hollow, Birch Creek, and Lone Bird ACECs would help enhance rare plant populations in those areas.

Off-highway Vehicle Use

50. OHV limitations and closures would help protect special status plant values by reducing the opportunity for OHVs to drive over special status plants or cause erosional damage to their habitats.

Biological Diversity

51. Actions to manage for biological diversity would provide protection for special status plants, by ensuring that their unique values are considered as a part of the ecosystem at all levels of biodiversity.

Noxious Weeds

Noxious Weed Infestations

52. Increasing the rate of noxious weed control from about 77 to about 150 acres per year and utilizing integrated pest management would help preclude the spread of noxious weeds within the RA. Large areas currently infested with weeds would be controlled on their periphery to prevent the spread of weeds, and biological control agents would be used to control weeds within the infested areas. As new outbreaks are discovered, they would be aggressively attacked, thus reducing the chance of infestation.

53. Seeding areas where vegetation is removed during construction with a suitable seed mix would help impede the spread of noxious weeds by occupying bare ground areas with desirable plant cover.

54. Requiring applicants for land permits and rights-of-way to control noxious weeds would help limit their spread. Requiring the use of certified weed-free hay on public land would reduce the rate of spread of noxious weeds from this source.

Off-highway Vehicle Use

55. Off-highway vehicles would have the potential to spread noxious weeds throughout the Resource Area along roads and vehicle ways. Increased OHV limitations and closures would slightly reduce the potential for the spread of noxious weeds by virtually eliminating cross-country travel.

Transportation

56. Road maintenance and new road or trail construction activities would have the potential to spread noxious weeds by providing disturbed sites for new weed invasions and corridors for weed dispersal. Many existing roads and trails would not receive regular maintenance; new road construction in riparian areas would be limited; heavy equipment would be cleaned on site; and roads not needed for management would be closed and rehabilitated. These actions would limit the amount of disturbance and the spread of noxious weeds.

Cumulative Effects

57. In addition to the cumulative effects from BLM actions listed in the **Summary of Effects**, actions from adjacent landowners could have cumulative impacts to the vegetation resource. Much of the Resource Area is adjacent to National Forests, private lands, or State lands. Generally, other than casual uses like recreation, any action that crosses from other ownership to BLM managed lands and would impact vegetation on public land would need a permit, right-of-way, etc. from the BLM. This would provide an opportunity to design or mitigate the action in accordance with the requirements of the RMP. One possible exception would be incidental recreation use, which could bring noxious weeds onto BLM lands. These weeds could be difficult to control and may impact vegetation for some time to come. Watershed assessments would include consideration of adjacent land uses on the vegetation component of the ecosystem. This would allow the opportunity for adjacent landowners, other agencies, etc. to help the BLM develop actions which would consider the overall needs of vegetation, regardless of land ownership patterns.

Visual Resources

No Reasonably Foreseeable Effects to Visual Resources: No reasonably foreseeable effects to visual resources would occur from PRMP decisions listed under the following sections: Air Quality, Hazardous Materials Management, Special Status Species, Tribal Treaty Rights, and Wild Horses and Burros.

Summary of Effects

1. Current visual quality in the Resource Area is very good, and the RA is very natural in appearance overall. PRMP decisions are expected to alter the visual quality of the landscape, but, except on a site-specific basis, would have no significant adverse or beneficial effects on visual quality. Visual quality would remain high, because a significantly larger portion of the RA would be in VRM Class II and the character of the existing landscape would be preserved on more acres.

Positive Effects

2. Positive effects are those activities which retain or enhance the natural visual aesthetics by maintaining or enhancing the form, line, texture, and color of the landscape - components which attract the eye. PRMP actions which enhance water quality, protect riparian and upland areas, and maintain the natural and aesthetic qualities of the landscape would have positive effects on visual quality. Examples of such actions include removing livestock for various time periods from certain streams; implementing grazing systems; modifying fire suppression practices; preserving high quality habitat in exclosures; acquiring wetlands; restricting road construction in riparian areas; retaining and/or designating special management areas *(e.g.,* SRMAs, ACECs, WSAs); modifying timber harvest practices (such as helicopter logging on Lone Pine Peak); stabilizing streambanks; limiting OHV use to existing roads, vehicle ways, and trails Resource Area-wide; and OHV closures in critical areas.

Negative Effects

3. Negative effects are visual intrusions on the landscape which degrade the existing natural visual aesthetics. Although negative effects to visual resources may occur from PRMP actions, surface disturbing activities would not exceed the allowable visual intrusion for a given area *(i.e.,* VRM Class). The following are examples of PRMP actions which would have a short or long term negative effect on visual quality, if they were to occur: range improvement projects and seedings; new road construction; timber harvest; recreation site development; and mineral development.

Cumulative Effects

4. All BLM actions would be in compliance with VRM class guidelines assigned a delineated area, and would either maintain or enhance those values. PRMP actions which would, in general, protect watersheds and improve wildlife and fisheries habitat, water quality, and riparian health would also benefit the VRM landscape. Class I and II areas would emphasize preservation of the natural landscape character, which would preclude development of any kind that could not attain visual standards. Class III areas would allow major changes to the landscape.

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USFS actions within the adjacent National Forest could have a positive or negative impact on overall visual quality in the RA, especially if VRM goals on adjacent USFS lands differ.

The effects of private land uses for agriculture, communities, and rural residences would be the greatest threat to maintaining visual quality on BLM-administered lands. Some actions, such as farming, could benefit VRM goals because many ranching activities help maintain visual quality. However, some ranching activities (such as fencing, corrals, buildings, and diversion structures) could alter the landscape character. The conversion of hay grounds into residential subdivisions could cause major alterations to visual quality.

Water Resources

No Reasonably Foreseeable Effects to Water Resources: No reasonably foreseeable effects to water resources would be expected from the actions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Paleontological Resources, Tribal Treaty Rights, Visual Resources, or Wildlife Habitat.

General Discussion of Effects to Water Resources: The impacts to hydrologic resources vary in type, intensity, and magnitude; some management actions tend to produce beneficial impacts, while others produce adverse impacts. Effects on water resources are best understood by recognizing the direct and indirect effects of management decisions on water quality and the quantity of water available within watersheds. The condition of upland and riparian vegetation, surface disturbance and associated soil movement, toxic contamination, and natural events (*e.g.*, fire, landslides) all have the potential to directly affect water quality or quantity in watersheds.

Water quality is determined by the level of support to beneficial uses which are "designated" by the Idaho State Department of Environmental Quality or "identified" by the BLM. Beneficial uses for the major streams within the Resource Area are listed in *Appendix J, Item 1*, pp. 657-661. Water quality standards vary for each beneficial use. Sediment, temperature, dissolved solids, and water chemistry (pH, dissolved oxygen) are common water quality standards that are either directly or indirectly monitored and managed within the Challis Resource Area.

Upland watershed vegetation influences the infiltration and runoff characteristics of a watershed. It affects the ability of a watershed to store and release water through ground water flow to a stream over a long period, and minimize the extent of "flashy," sediment-laden, overland flow events. A healthy, well-vegetated watershed improves watershed storage production capacity, which tends to maintain adequate summer and fall season base flows through a sustained inflow of cool ground water to the stream system. The stable flows and cool temperatures are required for fish, maintaining high water quality, and sustaining flows for downstream private agricultural, municipal, and domestic uses.

Good riparian vegetation community conditions improve the infiltration, filtration, and stability characteristics of a stream system. They allow a riparian system to store and release water through ground water flow to a stream over a long period, dissipate energy of high flows without stream degradation, revegetate degraded conditions, and filter water quality contaminants of overland flows prior to entering the stream channel. Improved riparian conditions will generally result in narrowing channels, which will cause more frequent overbank flows which dissipate stream energy, reduce flood flow peaks, and extend the time of runoff from a flood event. The longer period of time of overbank flow results in greater water storage within riparian soils and more sustained, higher, and cooler base flows following the flood event. These conditions improve the water quality and quantity needs for fish and downstream private agricultural, municipal, and domestic uses.

Soil type and conditions also have an impact on water quality, water quantity, and the timing of water release from a watershed. Different soil types have differing abilities to store and release water and differing resistance to erosion. Coarser soils with lower amounts of organic matter have a lower water-holding or water retention capability, tend to be less vegetated, and can be very erosive if not adequately protected. These soil types tend to be found on the higher slopes, are generally not as compactable, and depend on live vegetation, vegetative litter, and surface coarse fragments to improve infiltration and resist erosion. The sedimentation impacts of these soils tend to be a result of overland flow carrying sediments to stream channels. Finer textured soils have a higher content of silts, clays, and often organic matter. These soils have a very high water storage capacity, have the ability to support more vegetation, and are somewhat resistant to erosive forces when well-vegetated. The vegetation-water-soil combination tends to be more dynamic and have greater healing abilities when eroded. The sedimentation impacts of these finer textured soils tend to be silts and clays eroded directly by the stream, and are often the result of poor quality or inadequate vegetation. These soils can also be susceptible to mass wasting or slumping in saturated conditions.

The introduction of toxic materials in watersheds has the potential to adversely affect water quality. The effect of toxic materials spilled in either riparian or aquatic habitats would depend on the toxic substance spilled and the concentrations arriving in the water course. If toxic contamination were to occur, it could significantly and adversely affect water quality.

Natural events can have a sudden and dramatic impact on both water quality and water quantity. Wildfire will release nutrients which had been bound in the soil surface and plant material and make them readily available. Following wildfire, there can be a surge of nutrient loading in streams. In addition, when vegetation is removed by wildfire the soil surface becomes more susceptible to erosive precipitation events, resulting in the potential for increased sediment loading to streams. Extreme precipitation events can also impact both water quality and water quantity. Vegetation and soils conditions have evolved under a regime of climatic events and precipitation amounts. When an extreme precipitation event or an uncommon duration of precipitation occurs, soils can become saturated. Excess precipitation will flow rapidly to streams, causing flood conditions. Both the overland flow and streamflows from these events can be highly erosive, especially in the absence of adequate vegetative cover. High intensity rainfall events can actually seal the soil surface, reducing the water storage capacity of the soil and allowing rapid overland flow to accumulate to flood conditions in streams. This phenomenon tends to be a highly localized event. Rain-on-snow events can also cause severe flooding and erosion of stream channels. Rain on snow will cause a rapid release of water stored in snowpack, in addition to the rainfall. These events also typically occur when the ground is frozen and the water storage capacity of the soil is unavailable. This phenomena has caused some of the most severe flood events in the western U.S. Landslides can cause a significant and rapid, although generally localized, contribution of sediment to a stream system. Not only may a large quantity of sediment be input into the stream system in a short time, but the instability of the landslide soils may contribute sediment for an extended period of time until the landslide becomes stable.

Summary of Effects

1. PRMP management actions would improve water quality condition and trend. Watershed storage capacity and floodplain and riparian function would also improve. A number of specific management actions would improve upland and riparian vegetation conditions and associated upland, riparian, and aquatic habitats. Indirect benefits to water resources would include (a) reduced nutrient loading and sediment transfer to aquatic habitats and (b) improved watershed storage and production capacity. Improved vegetation conditions would result in immediate short term improvement, and establish the conditions for long term maintenance and continued

improvement of water resources. Identified beneficial uses (see *Appendix J, Item 1*, pp. 657-661) would not be adversely affected, and would achieve full support status over the long term.

Direct and Indirect Effects, by PRMP Section

Livestock Grazing

2. Allotments identified as priority allotments to determine proper stocking level would receive added attention to rapidly address riparian and floodplain functioning concerns that exist within some of those allotments (see ***Chapter 4*** - Fisheries, *Table 4-3*, p. 368). Actions designed to improve hydric species vegetation composition, structure, and cover on riparian areas would result in improved water storage capability, flood energy dissipation, and flood attenuation functions. Improved riparian conditions would also improve the overland flow filtering capabilities of these areas, and consequently the water quality within streams in the drainage. More stringent upland utilization level criteria would improve vegetation vigor and increase vegetative cover for watershed protection.

3. New and revised resource planning documents would incorporate knowledgeable and reasonable practices designed to maintain or improve and monitor water quality and support beneficial uses of intermittent and perennial streams.

4. Nonuse AUMs and AUMs that are lost, retired, relinquished, or otherwise canceled would be retained until watershed, wildlife, and aquatic habitat objectives are met. These actions would help accelerate improvement towards the identified hydrologic objectives within watersheds.

5. Livestock distribution would be improved by restricting livestock use in pastures until range improvement projects are in functional condition. The improved distribution would create more even utilization of the forage resource and limit the creation of overgrazed, unvegetated, sediment-producing zones within a pasture. Improved distribution would reduce the sedimentation impacts to water quality beneficial uses and improve water storage capacity in these zones.

6. Upland utilization standards would generally maintain or improve the vigor of upland vegetation and overall watershed cover in the long term. Use restrictions on key upland species during the critical growing period would further improve vigor and watershed cover. These improvements would increase available vegetative litter and plant basal area needed to (a) improve infiltration and watershed storage, (b) protect watersheds from excessive runoff events, and (c) reduce overland flows and sediment transport. Watershed storage capacities would be expected to increase, helping to maintain warm season base flows and cool water temperatures. Increased consideration of the effects of surface disturbing activities on soil compaction, erosion, and microbiotic crust populations would reduce upland sediment transport impacts to water quality beneficial uses and improve watershed storage capabilities.

Wild Horses and Burros

7. Maintaining existing wild horse numbers would continue to impact water quality in some locations in the Herd Management Area (HMA), primarily through excessive woody and herbaceous use in some riparian areas and localized bank shearing and soil compaction. However, other actions in the PRMP (*e.g.*, livestock grazing management, riparian area management) would improve vegetation and riparian conditions in the HMA, potentially mitigating some of these localized adverse effects. Wild horse numbers may be modified when adverse impacts to upland watersheds, riparian habitats or aquatic habitats can be attributed to wild horses; this would ensure no substantial degradation of water resources occurs. Wild horse numbers would continue to be closely monitored and controlled in known areas of fragile watersheds within the HMA (*e.g.*, Malm Gulch, Sand Hollow) to mitigate adverse effects to water resources from grazing and trampling of vegetation.

Riparian Areas

8. Riparian stubble height and bank shearing criteria indirectly limit livestock presence in riparian zones and would improve both riparian and aquatic habitat by ensuring that sufficient plant material remains to sustain desirable plant communities, maintain plant vigor, provide for a functioning floodplain, and protect the streambank. Improved riparian habitat conditions would, in turn, improve floodplain storage capacity, flood energy dissipation, flood attenuation functions, overland flow filtering capabilities, and water quality within streams.

9. Emphasis on increasing public awareness of the value of good condition functional riparian and wetland habitats, would help land users become more knowledgeable about and sensitive to these issues. As a result, land users may modify their actions to be less of a negative impact on water quality and aquatic resources.

10. Development of riparian study areas would help evaluate the success of applied management strategies for riparian improvement and the potential for vegetation succession. Applying this information in order to improve vegetation conditions outside the study exclosures would improve water quality outside the enclosed study area through reduced sedimentation and nutrient loading to streams. Significant benefits to water quality would only be realized if vegetation management improved throughout an entire drainage or watershed as a result of information gathered within the reference area. An allotment-scale grazing management demonstration project would provide information on the efficacy of selected land management strategies which may be applied for water quality improvement throughout other appropriate watersheds.

11. Increased emphasis on riparian pastures would provide greater control of riparian forage use and management objectives for riparian and aquatic habitat conditions, resulting in reduced sedimentation and nutrient loading and improved water storage capabilities within those pastures.

Floodplain/Wetland Areas

12. Discouraging development of floodplain and wetland areas and requiring protection of the beneficial functions of these areas if developed would benefit hydrologic resources. Water quality and availability would be improved by protecting the vegetation and land form characteristics of these areas, which would improve the infiltration, flood attenuation, filtration, and stability characteristics of a stream system.

Fisheries

13. Management actions intended to protect crucial habitats for designated priority fish species and achieve aquatic habitat objectives would, by association, reduce sedimentation and nutrient loading to streams and improve the infiltration, filtration, and stability characteristics of stream systems and upland watersheds.

Minimum Streamflow

14. Acquiring minimum streamflows on priority streams would improve both surface water quantity and water quality conditions (through dilution of contaminants). Maintaining minimum streamflows supports riparian vegetation, which enhances the floodplain storage capacity, flood energy dissipation, and flood attenuation functions of riparian areas. Improved riparian conditions would improve the overland flow filtering capabilities of these areas, and consequently the water quality within the stream. Maintaining minimum streamflows would help assure sustained quantities of water for downstream uses.

Water Quality

15. Actions intended to maintain satisfactory water quality and improve unsatisfactory water quality would have a positive effect on water quality beneficial use values, principally by reducing sedimentation and nutrient loading to aquatic habitats in the long term. The Procedures for Nonpoint Source Consistency Review identified in the PRMP, *Attachment 12*, pp. 145-146 would protect water quality from nonpoint sources of pollution, and provide strategies for managing all activities which may impact water quality.

Fire Management

16. In full suppression areas, fire suppression activities which remove vegetation and disturb soils are likely to impact water resources through increased sediment and overland water flows. The application of the Minimum Impact Suppression Tactics (MIST) Guidelines (see PRMP Attachment 9, pp. 124-134) would help mitigate some impacts resulting from fire suppression activities. Restrictions on motorized fire fighting equipment in WSAs would protect hydrologic resources in those areas from some suppression activities. Rehabilitation specifications would accelerate recovery of disturbed riparian and aquatic habitats if fire staging activities are unavoidable in those areas. Rehabilitation efforts in other localized areas (*i.e.*, uplands) would be implemented as necessary to rapidly revegetate soil types prone to erosion. Full suppression would reduce the immediate threat of sedimentation, overland water flow, and nutrient loading resulting from the burn. However, suppressing fires increases the risk of large, uncontrollable fires that would result in large scale burn areas susceptible to higher rates of sedimentation and overland water flows and widespread nutrient loading.

In conditional suppression areas, similar fire suppression impacts would also occur and similar MIST Guidelines criteria would apply. Impacts from fire suppression are expected to occur at a reduced level since suppression activities would be more flexible and controlled. Conditional suppression activity plans would consider vegetation and soil disturbing affects by identifying and controlling fire in plant communities with a high risk of adverse fire effects (*e.g.*, noxious weeds, cheatgrass, microbiotic crust populations) and include burn prescriptions to allow cooler, mosaic type burns, resulting in reduced risk of sedimentation and overland water flows and reduced potential of nutrient loading to streams. The risk of large, uncontrolled fires may decrease over the long term as more small fires are allowed to burn.

Transportation

17. Restrictions on new road construction in riparian areas would minimize new sediment loadings to aquatic habitats. Design specifications for new road construction are intended to eliminate the impacts of increased sedimentation on water quality. Evaluation and appropriate modification of existing roads would reduce the sediment loading to aquatic habitats that may currently exist and impact identified beneficial uses.

18. Focusing road maintenance on areas with the greatest potential for erosion and water quality impacts would minimize the potential for sedimentation. Road construction and maintenance activities would be reviewed by appropriate staff specialists, and meet or exceed minimum standards contained in State approved BMPs for road construction and maintenance. Design specifications for road maintenance are intended to eliminate sedimentation impacts to aquatic habitats. These limitations and reviews would minimize sedimentation impacts.

Rangeland Vegetation Treatment Projects

19. In the short term following treatment (two to five years), vegetation treatment projects such as plowing or burning could impact hydrologic resources by increasing sedimentation, water release, and overland flows from the treated areas. However, an objective of the vegetation treatment project would be to increase vegetative cover, thereby reducing the potential for sedimentation and increased water release and overland flows in the long term. In addition, designing irregular treatment patterns, untreated islands, and buffer strips would reduce the potential of overland water flows and sedimentation to adjacent stream reaches.

Noxious Weed Infestations

20. Spraying noxious weeds in conformance with the Northwest Area Noxious Weed Control Program EIS would reduce the potential for toxic contamination of water resources. In addition, increased emphasis on integrated pest management and other actions would further minimize the potential for toxic impacts to water quality. Reseeding ground disturbing treatment activities with perennial species within 8 months would provide soil cover and reduce the threat of sedimentation and overland water flows.

Forest Resources

21. Reducing the commercial timber base by approximately 24% would maintain some forest lands in an undisturbed condition, reducing the potential for induced sedimentation from timber harvest on those lands. In forested areas where harvest and associated road construction occur, the identified management practices, SOPs, and design specifications would adequately protect water quality beneficial uses from adverse sedimentation impacts. No significant beneficial or adverse effects to water quality would occur from management of forest resources within the Resource Area.

Recreation Opportunities and Visitor Use

22. The expanded facilities proposed to accommodate the expected increase in recreation use could cause increased sedimentation to aquatic habitats in, and adjacent to, campground and casual use areas. These impacts could, however, be monitored and controlled at the developed use sites. Not accommodating increased recreation use would have greater, more dispersed, and less controllable impacts on sedimentation and water quality. Further development of recreation facilities in riparian areas would be curtailed. Casual use areas identified for closure or hardening would reduce sedimentation and nutrient loading to adjacent streams. Expected increases in recreation use pose a greater risk of hazardous or other pollutant material spills into streams. However, site development would typically be away from the streamside to minimize this potential.

Off-highway Vehicle Use

23. OHV use limitations are designed to protect fragile soils, wildlife, upland vegetation, and riparian habitat. OHV limitations throughout the RA and localized closures would nearly eliminate sedimentation and vegetation disturbance impacts from off road vehicle travel. Limiting OHV use to existing roads and vehicle ways would allow mitigation efforts to be focused on maintaining existing roads and trails to minimize adverse sedimentation effects. The stated exceptions to the OHV limitations may result in some surface disturbance leading to accelerated erosion and altered water flows. However, these instances, should they occur, would be minimal and localized.

Land Tenure and Access

24. A "no net loss" policy of like riparian values on individual land tenure adjustments would be pursued. In the long term there would likely be a net increase in the protection of these habitats, by managing for the protection of acquired lands and applying conditions for the protection of released lands through land tenure agreement. Acquired habitats would be managed for their special values (*e.g.*, sensitive fish species) and to maintain or enhance water quality and wetland characteristics. Improving or maintaining these habitats would improve water flow, associated hydrologic characteristics, and water quality.

25. A priority for land tenure adjustment would be acquisition of lands with identified high resource values, such as riparian resources. Lands acquired for these special values would be managed for those values. This policy would help maintain and improve water quality beneficial uses by protecting riparian vegetation conditions.

Wild and Scenic Rivers

26. The BLM would maintain WSR values on the 5 segments found suitable and 10 segments identified as eligible, with a suitability study deferred. Management to maintain the free-flowing character of these 15 segments and fisheries Outstandingly Remarkable values on 9 segments would indirectly benefit the water quality, riparian habitat, and wetland characteristics associated with these waterways.

Areas of Critical Environmental Concern

27. Special management actions designed to protect the various ACEC values (*e.g.*, grazing, OHV use, timber harvest, and mining restrictions; seasonal OHV restrictions; and vegetation management) would directly (a) reduce sedimentation and nutrient loading impacts to water quality, (b) reduce the threat of overland water flow and altered water release, and (c) stabilize water quantity within the watershed.

Wilderness Study Areas - Management if Released

28. Suitable WSAs released from wilderness review would primarily be managed to maintain their primitive values, and protection of riparian and water quality would remain a high priority. Actions designed to protect and stabilize soils and provide adequate vegetative cover would continue, resulting in water resources protection. Restrictions on OHV use, timber harvest, and mineral development would also protect water resources by reducing sedimentation, reducing overland flows, and improving water quality.

    Less restrictive timber harvest and mineral development would be allowed in nonsuitable WSAs, if released. However, helicopter logging requirements, proposed road closures, and standard stipulations on mineral development would provide reasonable protection from disturbances to surface soil and vegetative cover, thus reducing the threat of excessive soil movement, sedimentation, or altered overland water flows.

    Allowing rangeland improvements to be constructed within suitable and nonsuitable WSAs, if released from wilderness review, would enhance water resources by improving livestock distribution in order to reduce surface disturbance and better control livestock presence in and around riparian/wetland areas.

Minerals

29. There is low potential for oil, gas, and geothermal resources in the Challis Resource Area, and therefore little potential for energy mineral leasing to impact water resources. Wherever they are applied, the "no-surface-occupancy" stipulation or other standard stipulations would effectively protect the soil and vegetation resources and reduce the threat of excess sedimentation, overland water flows, altered water release, and toxic contaminants, thus protecting water quality. Water resources in areas closed to energy mineral leasing (campgrounds, recreation sites, existing WSAs) or with a mandatory NSO stipulation (riparian areas in salmon, steelhead and bull trout watersheds) would be fully protected from adverse impacts of energy minerals leasing.

30. There are no known non-energy leasable minerals within the Resource Area; therefore, no reasonably foreseeable impacts to water resources from non-energy mineral development are expected.

31. Water resources would be fully protected from mineral material development impacts in areas closed to mineral material sales (campgrounds, recreation sites, existing WSAs and suitable WSAs if released from wilderness review, Lone Bird and Malm Gulch/Germer Basin ACEC, and riparian areas in salmon, steelhead, and bull trout watersheds). These closures would protect existing water quality conditions from sedimentation and toxic contaminants in the major stream segments and tributaries within the closed areas, and protect upland watersheds from surface soil and vegetation disturbances.

    Within SRMAs and ACECs, mineral material disposals would be subject to ID team review and protection of special management area values; these requirements would provide some protection to water resources characteristics within these areas. Requiring mineral material disposal activities in riparian areas not within salmon, steelhead, and bull trout watersheds to not hinder attainment of desired riparian and aquatic habitat conditions would protect or enhance water resource characteristics through protection of riparian vegetation, soil cover, and wetland processes.

    Mineral material development specifications in the remainder of the Resource Area not previously identified would be dependent upon ID team review. Surface soil and vegetation disturbances are likely to occur, which would disrupt overland water flow processes, soil water holding and release cycles, and accelerate soil erosion. Although likely to occur, these impacts are expected to be localized and limited in size and scope.

32. Continuing to withdraw recreation sites from locatable mineral entry would have a small benefit to hydrologic values, because of the small acreage involved. Mineral location activities which do not require a plan of operations (generally less than 5 acres) could negatively impact water quality through riparian vegetation removal, increased sedimentation, and toxic water quality contamination. For larger locatable mineral activities (5 acres or more) and in some special management areas, some protection of the hydrologic resource could be provided through preparation of a plan of operations and ID team review. However, existing laws allow a high degree of flexibility to the mineral locator, and negative impacts to the hydrologic resource could still include removal of riparian vegetation, increased sedimentation, and toxic contamination. Required reclamation for large scale mineral material location actions would mitigate some of the adverse impacts in the long term. Design specifications which prohibit mining facilities in riparian habitat areas of anadromous fish and bull trout watersheds where feasible could help control sedimentation and toxic effects to water quality in those areas. Withdrawing suitable WSAs released from wilderness review from locatable mineral entry would protect existing hydrologic values in those areas from sedimentation and toxic impacts of

locatable mineral activity.

Hazardous Materials Management

33. Hazardous materials management decisions would minimize, although not eliminate, the chance of hazardous material toxic contamination affecting water quality. The severity of an occurrence would depend upon the substance and concentration.

Cumulative Effects

34. Management actions applied to all resources would complement each other, resulting in a sustained improvement of overall water quality and watershed production over the long term, primarily through better management of riparian and upland vegetation communities. Improved vegetation conditions would be expected to (a) quickly reduce sedimentation to aquatic habitats and nutrient loading of water courses, (b) establish conditions to stabilize stream systems, allowing the systems to take advantage of flows which tend to flush silted-in channels, and (c) provide upland vegetation adequate to moderate overland water flows and normalize water release processes. Other decisions in the PRMP to directly manage aquatic habitat, surface disturbing activities, and floodplains and wetlands would also support achieving beneficial uses as part of an overall resource management package.

35. Forest Service and State land management practices are also being modified to improve water quality. As these practices are implemented, sedimentation and nutrient loading impacts would decrease on these lands and consequently have reduced cumulative impacts to the water quality of streams on BLM lands. A more sustained streamflow on BLM lands would also be expected as a result of controlled overland flows and water release processes on higher elevation Forest lands.

36. Agricultural uses on private lands within RA boundaries tend to produce adverse sedimentation and nutrient loading impacts to water quality. Water diversion on BLM or private lands for private land irrigation significantly reduces or dewaters streamflows. This may reduce water availability to users on downstream segments and negatively affect riparian vegetation on dewatered segments. Minimum streamflow rights granted by the State of Idaho as a result of BLM actions may help to stabilize some of the flows at current levels on selected priority streams within the Resource Area.

Mineral development on private lands could affect water quality on BLM lands. If the private landowner retains the mineral rights on and under the private land, development would be subject to State standards. Otherwise, development would be subject to Federal standards described in the RMP. The potential impacts to water quality include sedimentation, loss of protective vegetation, and toxic contamination.

The use and storage of toxic materials on private lands poses a fairly significant risk of toxic contamination impacts to water quality on BLM lands. The use of toxic materials on private lands is generally greater than

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on Federal lands. Private landowners may store or dispose of toxic substances, including agricultural chemicals and petroleum products, in a less regulated manner than is required on Federal lands. Unprotected storage facilities, inappropriate storage containers, and small family dumps may occur on private lands and cause adverse impacts to water quality.

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Wilderness Study Areas, if Released from Wilderness Review

Introduction: This analysis describes the effects of proposed management decisions on primitive values (opportunity for primitive and unconfined recreation, "naturalness," and opportunity for solitude) and biodiversity in WSAs, assuming that WSAs in the Challis RA are *released* from wilderness review. (See ***Chapter 4*** - Biological Diversity; Recreation Opportunities, Visitor Use, and OHV Use; and Visual Resources for additional discussions of effects on biodiversity, primitive recreation, and the natural character of the landscape.)

Two designated U.S. Forest Service wilderness areas (Frank Church - River of No Return Wilderness and Sawtooth Wilderness) lie within 25 air miles of WSAs in the Challis RA (see *Map 29: Local Wilderness Status*). U.S. Forest Service areas which retain a roadless character and primitive values, but were recommended unsuitable for wilderness designation and are currently managed for non-wilderness uses such as timber management, minerals development, and motorized recreation, lie adjacent to the Goldburg WSA (portions of the North Lemhi RARE II area) and the Boulder Creek WSA (portions of the Boulder/White Cloud RARE II area). One USFS area recommended suitable for wilderness designation (Borah Peak RARE II area) lies adjacent to the portion of the Burnt Creek WSA which is recommended suitable for wilderness designation.

No Reasonably Foreseeable Effects to WSAs if Released from Wilderness Review: No reasonably foreseeable effects on primitive values or biodiversity in WSAs released from wilderness review would be expected as a result of management decisions listed in the PRMP under the following sections: Air Quality, Cultural Resources, Hazardous Materials Management, Land Tenure and Access, Paleontological Resources, Recreation Opportunities and Visitor Use, Tribal Treaty Rights, and Wild and Scenic Rivers.

Summary of Effects

1. Primitive values and biodiversity would be partially maintained in WSAs released from wilderness review. OHV use and forested area management actions would reduce proliferation of new roads and vehicle ways. Potential for adverse effects of timber harvest on primitive values and biodiversity would be reduced by stipulations on harvest methods, limitations on haul road construction, and closing suitable portions of the Jerry Peak WSA to timber harvest.

Direct and Indirect Effects, by PRMP Section

Areas of Critical Environmental Concern

2. Designating the Herd Creek Watershed ACEC and managing the ACEC to maintain ACEC values would help contribute to the maintenance of primitive values and biodiversity in the Jerry Peak and Jerry Peak West WSAs, if released from wilderness review (see ***Chapter 4*** - Biological Diversity, #2 (ACECs)).

Fire Management

3. Stipulations on fire suppression activities would contribute to the maintenance of primitive values in WSAs released from review by ensuring protection of riparian habitats and other resource values from damaging effects of suppression activities, and by requiring rehabilitation of burned and damaged areas. Development of fire management activity plans is

expected to help maintain biodiversity through the development of fire prescriptions and implementation of prescribed burning in WSAs released from review.

Livestock Grazing, Wild Horses and Burros, Riparian Areas, Fisheries, Floodplain/Wetland Areas, Minimum Streamflow, Noxious Weed Infestations, Water Quality, Wildlife, and Upland Watershed

4. PRMP decisions to manage livestock grazing, wild horses, riparian areas, fisheries, floodplains, minimum streamflows, wetlands, noxious weeds, water quality, wildlife and upland watersheds would help to maintain and improve natural plant and wildlife communities in WSAs released from review, thereby contributing to the maintenance of primitive values and biodiversity in these areas.

Forest Resources

5. Timber harvest activity is expected to remove old growth timber, with potential for adverse effects on biodiversity (see ***Chapter 4*** - Biological Diversity, #7 and 9) and old growth forest values associated with large, undisturbed patches of forest land. Timber harvest would also result in a decline of primitive values in WSAs released. Timber stand improvement and sanitation treatments would help reduce the potential for adverse effects from disease, insect infestation, wildfire, and other natural events in WSAs.

   Closing suitable portions of the Jerry Peak WSA (26,750 acres) to all timber harvest would help maintain old growth forest values, biodiversity and primitive values associated with large, undisturbed patches of forest land. In the Corral-Horse Basin WSA and suitable portions of the Burnt Creek WSA, timber harvest restrictions would help maintain primitive values and the natural character of the landscape, except where modified by timber harvest and within 1/2-mile of existing roads where timber haul roads may be authorized. Timber harvest would also preclude opportunities for primitive recreation and solitude for short periods during the time when harvest actually takes place.

Minerals

6. Mineral development in WSAs released from wilderness review, if it were to occur, would be likely to increase proliferation of roads and vehicle ways, change the natural character of the landscape, and degrade primitive values. However, the probability of fluid energy, saleable, non-energy leasable, and locatable mineral development is low in all WSAs, and the potential for adverse effects is therefore also low. In suitable WSAs released from wilderness review (38,930 acres), no surface occupancy stipulations on energy mineral development, closure to saleable minerals and non-energy leasing, and withdrawal from locatable mineral entry would help maintain primitive values, reduce proliferation of roads and vehicle ways, and help maintain the natural character of the landscape.

Off-highway Vehicle Use/ Transportation

7. Limiting motorized vehicle use to existing roads and vehicle ways in WSAs released from review, limiting new road construction in the Jerry Peak, Jerry Peak West, Corral-Horse Basin and Burnt Creek WSAs, closing the Dry Creek Road and Herd Creek trail to motorized vehicle use, and developing a transportation plan for the RA would help reduce proliferation of roads and vehicle ways in WSAs released from review and help maintain primitive values.

Special Status Species/ Biological Diversity

8. Special status species management actions would promote biodiversity in WSAs released from review by requiring (1) inventories, surveys, and field assessments of projects and other actions that may affect special status species in the WSAs; and (2) development of species data files and field inventories for amphibians, reptiles, insects, and nonvascular plants that would provide more detailed information upon which to base management decisions in the WSAs. Biodiversity management actions would contribute to knowledge of biodiversity and require the effects of management actions on biodiversity in the WSAs to be considered.

Visual Resources

9. Managing WSAs released from wilderness review (which are Class I until released) under the VRM class of adjacent BLM public lands would have the potential to result in a decline of visual quality if actions that reduce visual quality are approved.

Cumulative Effects

10. In the long term, primitive values on BLM and National Forest lands are expected to decline slightly due to increased recreation use and other human activity, except in designated wilderness areas and other roadless areas (see *Map 29: Local Wilderness Status*), where recreation use and human activity would more likely be managed or controlled. Maintenance of primitive values in the Jerry Peak and Burnt Creek WSAs, if released from wilderness review, would help to maintain the overall primitive character of the public and National Forest lands in the region.

Wild Horses and Burros

No Reasonably Foreseeable Effects to Wild Horses and Burros: No reasonably foreseeable effects to wild horses and burros are anticipated from the actions listed in the following sections of the PRMP: Air Quality, Biological Diversity, Cultural Resources, Floodplain/Wetland Areas, Hazardous Materials Management, Minimum Streamflow, Paleontological Resources, Special Status Species, Transportation, Tribal Treaty Rights, Visual Resources, Water Quality, Wilderness Study Areas - Management if Released from Wilderness Review, and Wild and Scenic Rivers.

Introduction: No portion of the Morgan Creek Allotment has been designated as a Wild Burro Area. Any burros released there in the future would be removed. Therefore, there would be no impact to wild burros from any actions in the PRMP, and wild burros will not be discussed further.

Effects to wild horses and wild horse habitat would be limited to the Herd Management Area portion of the Challis Resource Area (see *Map 48*). Effects to wild horses are described below under one or more of the following categories: Summary of Effects; Direct and Indirect Effects, by Type of Effect and PRMP Section ("Types of Effects" include Impacts to Wild Horse Habitat, Competitive Impacts to Wild Horses, and Disturbance Impacts to Wild Horses); and Cumulative Effects. Improvement or maintenance of wild horse habitat or increased forage availability, as noted in the following analysis, would help to ensure the productivity and viability of the wild horse population. Competitive impacts, as used below, refer to conflicts between wild horses and livestock or wildlife for available forage, space, or water. Disturbance impacts, as used below, refers to actions which impact the viability and productivity of the wild horse herd, rather than disturbance to individual members of the herd. While some actions may disturb individual animals, causing them to run off a short distance, rarely do disturbances result in disruptions to the viability and productivity of the herd.

Summary of Effects

1. Establishing proper livestock stocking rates for grazing allotments within the Herd Management Area (HMA) would improve wild horse habitat and reduce competition and disturbance from livestock. Watershed assessment would benefit wild horse management by considering all components of the ecosystem. Upland utilization standards, riparian stubble height criteria, and upland cover requirements would reduce livestock/wild horse competition and lead to improved wild horse habitat by maintaining or increasing the availability of forage for wild horses. Range improvements to achieve multiple use objectives would lead to improved wild horse habitat. Helicopter logging of the Lone Pine Peak area or the Jerry Peak or Corral-Horse Basin WSAs could impact wild horses through disturbance of individual animals, but would not impact herd viability. OHV closures and limitations would benefit wild horses through less harassment and improved vegetation conditions.

2. Overall, PRMP decisions would have very positive impacts to wild horses, leading to a thriving natural ecological balance within the HMA.

Direct and Indirect Effects, by Type of Effect and PRMP Section

Impacts to Wild Horse Habitat

Livestock Grazing

3. PRMP requirements such as stubble height, utilization, cover, and bank shearing criteria could result in active livestock use up to 12,657 AUMs below the existing active preference level Resource Area-wide. In the long term, establishing proper stocking rates for the Warm Springs and Mountain Springs (San Felipe) allotments would benefit wild horse habitat by reducing competition between livestock and wild horses, and leading to increased vigor of vegetation, changes in vegetation composition, and increased forage production and availability.

4. Continuing to close the Malm Gulch and Sand Hollow areas to livestock grazing would maintain vegetation and may provide additional forage for wild horse use.

5. Development of watershed assessments and Integrated Resource Activity Plans (IRAPs) would benefit wild horse habitat by ensuring consideration of all components of the ecosystem.

6. The use of upland utilization standards, riparian stubble height criteria, and bank shearing criteria to determine when to move livestock from one pasture to another would maintain or improve wild horse habitat by ensuring that livestock overuse does not occur within the Herd Management Area.

7. Managing for late seral to Potential Natural Community as the Desired Plant Community would improve wild horse habitat conditions by maintaining or improving vegetation health and vigor.

8. Holding unused AUMs for non-consumptive uses would help ensure improvement of wild horse habitat and/or would be expected to increase forage availability for wild horses by increasing vegetation vigor, density, and production.

9. Achieving upland cover requirements would improve wild horse habitat by providing ground cover to reduce runoff and erosion and by providing a favorable microclimate for seedling establishment.

10. In the long term, PRMP upland utilization and stubble height requirements and the use of watershed assessments to identify habitat conditions, trends, and wild horse habitat needs would ensure improvement of wild horse habitat.

11. Requiring livestock permittees to maintain range improvements would benefit wild horses by helping to ensure that water is available at troughs within the wild horse herd area and that livestock remain in areas where they are permitted. Requiring permittees to delay turnout until all improvements are functional would benefit wild horse habitat by controlling the

area's livestock use.

12. Using land treatments and improved grazing management as tools to achieve multiple resource objectives would improve wild horse habitats. Allowing permanent increases in livestock forage attributed to range improvements only after an ID team analysis has indicated that all allotment objectives have been met would ensure that wild horse habitats would be improved by the range improvement.

Wild Horses and Burros

13. Managing to maintain a herd of about 185 to 253 wild horses is expected to ensure that wild horse habitat is maintained, and that a thriving natural ecological balance is achieved, as required by the Wild Horse and Burro Act. Localized impacts of wild horse use would be handled through periodic gatherings of excess animals, as described in the HMAP. If conditions throughout the herd area deteriorate due to too many wild horses, the Appropriate Management Level would be adjusted downward to protect wild horse habitat. Allowing wild horses to use the Malm Gulch and Sand Hollow areas would increase the BLM's wild horse management flexibility. The BLM could gather wild horses from any place they are causing resource damage, instead of having to gather all horses from within the Malm Gulch or Sand Hollow areas, whether or not they are causing resource damage.

14. Adjusting wild horse management to cause progress toward meeting desired riparian and aquatic habitat conditions would improve wild horse habitat by providing higher quality riparian habitat and improved water quality.

Wildlife Habitat

15. Providing forage and habitat for current stable populations of big game animals would have minimal impact to wild horse habitat. Encouraging IDFG to keep big game numbers at their current level would benefit wild horse habitat, as additional numbers of big game, if excessive, could impact wild horse habitat through overuse.

16. Actions to implement the Salmon BLM's *Fish & Wildlife 2000* Plan would improve wild horse habitat to the extent that these actions are undertaken in the Herd Management Area.

Noxious Weed Infestations

17. Decisions regarding noxious weeds control would have little impact on wild horse habitat, as there is only one small weed infestation currently present within the Herd Management Area. Requiring seed for revegetation projects to be certified weed-free from noxious weeds for Idaho and adjoining states would benefit wild horse habitat if any revegetation projects are implemented within the Herd Management Area.

Rangeland Vegetation Treatment Projects

18. Determining the need and priority for vegetation treatment projects through the ID team and activity planning process would ensure that any project undertaken would benefit wild horse habitat by improving overall range condition.

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Upland Watershed

19. Fire rehabilitation to meet multiple use objectives as determined by an ID team would ensure protection of wild horse habitat.

Fire Management

20. In the short term, full suppression of wildfires throughout most of the RA could lead to large, uniform areas where fire exclusion results in a monoculture of sagebrush-dominated grasslands. These types of habitats are not optimum for wild horses. Conditional fire suppression areas could, in the long term, eventually cover most of the Herd Management Area. This would allow fire to play a more natural role in the ecosystem and lead to improved habitat conditions within the Herd Management Area.

21. The use of an ID team to develop activity plans and fire prescriptions to enhance ecosystem health and function would benefit wild horse habitat.

Riparian Areas

22. The use of riparian stubble height and bank shearing criteria for livestock grazing would improve wild horse habitat by helping to ensure that overuse of riparian habitat does not take place.

Fisheries

23. Developing management strategies and objectives through the activity planning process to meet or exceed desired riparian and aquatic habitat conditions and improve 90% of non-functional or functional-at-risk aquatic and riparian habitats would ensure good quality riparian habitat and water quality within the Herd Management Area.

Land Tenure and Access

24. Land tenure adjustments (including DLEs, sales, exchanges, etc.) would have little or no impact to wild horse habitat. Of the sale tracts proposed, only 31.36 acres fall within the Herd Management Area. DLEs would comprise a small but unknown acreage, and other land tenure adjustments would not be expected to impact wild horse habitat. Rights-of-way, land leases, permits, and withdrawals would have little or no impact to wild horse habitat.

Areas of Critical Environmental Concern

25. Continuing the existing designation of the Antelope Flat, East Fork Salmon River Bench, and Malm Gulch/Germer Basin ACECs would have no impact to wild horse habitat, as no actions are proposed for these ACECs that are incompatible with wild horse habitat. Designation of the Sand Hollow ACEC would have little impact to wild horse habitat, as the area would remain closed to livestock grazing. The Lone Bird ACEC would be closed to motorized vehicle use, potentially affecting the ability of the BLM to conduct wild horse gatherings in that area. This would not, however, be a major impact to wild horse habitat, as there are sufficient other sites available outside the ACEC to ensure gathering can take place as needed to protect wild horse habitat.

Forest Resources

26. Using the ID team process and information gained through watershed assessment to manage 23,578 acres of forest lands for multiple uses would result in improvement of wild horse habitat, as the needs of all components of the ecosystem would be taken into account.

27. Road construction and logging activities within the HMA would have minimal impacts to wild horse habitat, as the potential for these types of actions is low. Impacts to habitat in a small portion of the HMA would be expected until logged areas regenerated, but would not be significant, as these timbered areas are used primarily for summer shade and winter cover.

Minerals

28. Oil, gas, and geothermal leasing would have limited potential for impact to wild horse habitat on the acres of the Resource Area open to leasing, due to low development potential and the use of stipulations to protect resource values. The use of standard stipulations on ACECs (23,087 acres within the Herd Management Area) would ensure protection of wild horse habitat in those areas. The use of NSO stipulations within SRMAs (14,234 acres within the HMA) and suitable WSAs if released (12,726 acres within the HMA) would help to reduce the potential for disturbance or loss of wild horse habitat.

29. There are no known deposits of non-energy leasable minerals in the RA, so no reasonably foreseeable impacts to wild horse habitat from non-energy leasing are expected.

30. Mineral materials development would have limited potential to impact wild horse habitat, because there is little potential for mineral materials within the HMA. Closing the Lone Bird and Malm Gulch/Germer Basin ACECs to rockhounding, mineral material collection, and mineral material sales would protect wild horse habitat within those areas. Continuing to close about 12,726 acres of suitable WSAs within the HMA to disposal of mineral materials, if released from wilderness review, would also protect wild horse habitat.

31. Locatable mineral development could impact wild horse habitat if a large-scale mine were to be developed within the Herd Management Area. However, the potential for this to occur would be low. Suitable WSAs, if released, would be withdrawn from locatable minerals entry, providing protection for 12,726 acres within the HMA from the impacts of locatable mineral development.

Off-highway Vehicle Use

32. Limiting OHV use throughout the Resource Area to existing roads, vehicle ways, and trails yearlong, and closing the Lone Bird and Sand Hollow ACECs to OHV use, would protect wild horse habitat from OHV trampling, erosion, and soil loss impacts.

Competitive Impacts to Wild Horses

Livestock Grazing

33. The current livestock allocation of 51,069 AUMs, coupled with a wild horse herd management level of 185 to about 253 horses, has resulted in livestock/wild horse competition. Periodic drought has resulted in livestock foraging into areas normally used only by wild horses. However, the competitive impact on wild horses has not been significant, as evidenced by the general good health, good condition, and reproductive success of the

herd. For the long term, as proper stocking rates are established for grazing allotments within the Herd Management Area, competitive impacts to wild horses would be reduced.

34. The Malm Gulch and Sand Hollow areas would be closed to livestock use but not wild horse use; no competition would occur.

35. Development of watershed assessments and Integrated Resource Activity Plans (IRAPs) would help ensure competition between livestock, wildlife, and wild horses would be minimized.

36. The use of utilization criteria, riparian stubble height criteria, and bank shearing criteria to determine when to move livestock from one pasture to another or from an allotment would decrease livestock/wild horse competition.

37. Holding available livestock grazing AUMs for watershed and wildlife purposes until allotment vegetation objectives are met would decrease the competition between livestock and wild horses.

38. Prescribed burns and seedings, if planned by an ID team to promote overall ecosystem health and diversity, would be unlikely to increase competition between livestock and wild horses.

Wildlife Habitat

39. Providing forage and habitat for current stable big game populations would have competitive impacts to wild horses. Ensuring that big game populations do not exceed proper levels or damage habitat would indirectly ensure competition does not increase.

40. Developing new wildlife watering sources could result in competitive impacts to wild horses if wildlife are attracted into formerly unused areas

41. Developing riparian study exclosures would have a very minor adverse impact to wild horse competition, as livestock are displaced to other areas by these exclosures.

42. Wildlife reintroductions would be unlikely to compete with wild horses, as the reintroductions would not be allowed if they would result in competition.

Rangeland Vegetation Treatment Projects

43. Developing vegetation treatment projects through the ID team and activity planning process would ensure competition between livestock and wild horses would be minimized.

Upland Watershed

44. Watershed cover criteria would ensure competition between livestock and wild horses for forage, water, and space is minimized by controlling livestock use within the HMA.

Riparian Areas

45. Procedures to maintain water quality, support beneficial uses, and restore and maintain riparian/wetland areas; and designing grazing systems to improve riparian areas could have competitive impacts to wild horses, if livestock are moved from riparian areas into upland areas normally used only by wild horses.

Disturbance Impacts to Wild Horses

Livestock Grazing

46. Continued livestock grazing at historic levels would have disturbance impacts to individual horses or bands, but no impact to overall herd viability. Over the long term, as appropriate livestock stocking levels are determined, disturbance impacts would decrease.

47. Continued closure of the Malm Gulch/ Germer Basin area to livestock would not have disturbance impacts, as wild horses could use the Malm Gulch/Germer Basin area as long as resource damage does not occur.

48. Integrated Resource Activity Plans (IRAPs) resulting from watershed assessment would still include grazing systems incorporating pasture movements, which would continue to have minor disturbance impacts to wild horse individuals or bands through rotation of livestock through grazing systems and the need for riders, salting, fence maintenance, monitoring, and other necessary activities associated with livestock grazing.

Wild Horses and Burros

49. Periodic gatherings of wild horses would have disturbance impacts. The policy of gathering only adoptable animals would mean that some horses would be returned to the Herd Management Area, potentially disrupting band integrity and the social structure of individual bands. The overall impact of this would not be significant.

Wildlife Habitat

50. Developing and maintaining wildlife habitat improvement projects would have disturbance impacts to wild horse individuals and bands during the construction phase as well as from increased wildlife activity adjacent to springs, streams, etc. Animal Damage Control (ADC) activities could have disturbance impacts to wild horses through aerial activities, although lack of ADC activities could increase disturbance impacts through predation of young wild horses.

Fire Management

51. Fire suppression activities would have disturbance impacts to wild horses during the time they are undertaken, although much of the Herd Management Area is within Wilderness Study Areas, thus limiting the suppression methods available. Where activity plans are developed for conditional suppression areas, suppression efforts would be minimized, resulting in fewer disturbance impacts to wild horses.

Riparian Areas

52. Livestock management systems designed to improve riparian habitat would cause disturbance impacts to wild horse individuals and bands if they cause livestock to move into areas normally used only by wild horses. The overall impact would be slight, as horses are "habituated" to the presence of

livestock.

Land Tenure and Access

53. Land disposal actions would have disturbance impacts to wild horses to the extent that the existing land uses (grazing) are modified by a change in ownership. Rights-of-way and other lands permit actions would have disturbance impacts during the construction phase, as well as continued disturbance from increased human activity. Resolution of occupancy or agricultural trespass would generally reduce disturbance impacts as lands are rehabilitated. The overall impact of these actions would be minimal.

Forest Resources

54. All forest management planning and projects would be designed and analyzed by an ID team, which would minimize disturbance impacts. Helicopter logging of the Lone Pine Peak area or other areas within the HMA would cause disturbance impacts, as wild horses are very sensitive to helicopter activities. This could cause temporary displacement of individual wild horses or bands from the helicopter logged areas, but would not impact overall herd viability.

Minerals

55. Although oil, gas, and geothermal operations would have potentially have disturbance impacts to wild horses through exploration activities such as drilling and road building, the low likelihood of any future development, together with no surface occupancy stipulations on 75,597 acres of WSAs and 8,502 acres of ACECs within the Herd Management Area, would ensure no disturbance would occur.

56. Saleable minerals activities would cause minor disturbance impacts to individual horses or bands through extraction and road building in the very few instances where they are permitted.

57. Locatable minerals exploration, extraction, and associated road development would cause disturbance to wild horses. However, the potential for these effects would be very slight, as there is low potential for development. Withdrawing suitable WSAs from mineral entry, if released, would protect wild horses from disturbance in those areas.

Recreation Opportunities and Visitor Use

58. Developing a public viewing area for wild horse observations would have minimal disturbance impacts to wild horses. The proposed Wild Horse Back Country Byway would also have disturbance impacts from increased vehicular traffic along the route through the HMA. These impacts would not affect herd viability.

Off-highway Vehicle Use

59. Limiting OHV use on the entire Resource Area to existing roads and vehicle ways yearlong and closing the Lone Bird, Sand Hollow and East Fork Salmon River Bench ACECs to OHV use would ensure that disturbance impacts to wild horses from OHV use would be minimized.

Cumulative Effects

60. Cumulative impacts to wild horses from actions on BLM-administered lands could result from any actions that impact wild horse habitat, actions that increase or decrease competition between wild horses and livestock or wildlife, or actions that disturb the normal life cycle of these animals. Overall, the net effect of actions taken in the PRMP would improve vegetation conditions within the HMA, leading to improved habitat for wild horses. Competition between wild horses and livestock or wildlife would not be expected to increase over the existing situation. The overall impact of disturbances to wild horses would not be expected to be severe enough to disrupt their life cycle. PRMP actions should result in a thriving, natural ecological balance within the HMA.

61. In addition to the cumulative impacts of BLM actions, there would be little impact to wild horses from the actions of adjacent private landowners or State of Idaho lands within the Herd Management Area (HMA). These lands are used for essentially the same purposes as the HMA. No National Forest system lands are adjacent to the HMA, so no impacts from Forest Service activities would be anticipated.

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Wildlife Habitat

No Reasonably Foreseeable Effects to Wildlife: No reasonably foreseeable effects to wildlife would be expected as a result of management decisions listed in the PRMP under these sections: Air Quality, Hazardous Materials Management, Tribal Treaty Rights, and Visual Resources.

Assumptions of Analysis: The following assumptions were made when developing the wildlife impact analysis:

a) Maintenance, protection or improvement of wildlife habitats or habitat condition, as described in this analysis, means the maintenance or improvement of habitats or habitat sites (see ***Chapter 3*** - Wildlife) that are important to the survival, productivity, and stability of wildlife populations. Adverse effects, as used in this analysis, means the displacement of animals from preferred habitats, or the decline of habitat condition, habitat suitability, survival rates, productivity, or population stability. Motorized vehicle use and other human caused disturbances can result in displacement of wildlife from preferred habitats, declines in reproductive success, and mortality during critical periods.

b) Wildlife populations are subject to decline or fluctuations in size from year to year due to the effects of weather, hunter harvest, disease, predation, and competition. The effects of these factors can be significantly greater than the effects of most decisions in this PRMP. However, the influence of these factors can be much more significant on key habitats where habitat condition or habitat suitability is less than adequate to provide for the needs of dependent wildlife species.

Summary of Effects

1. Decisions in the PRMP would result in general improvement of habitat condition for most wildlife species. In the short term, habitats in less than satisfactory condition would begin to improve as riparian stubble height and upland utilization criteria are implemented and adjustments of livestock use are made. Adjustments in livestock use would reduce competition between wildlife and livestock and increase the availability of food and cover for most wildlife species. In the long term, completion of watershed assessments and implementation of integrated resource activity plans, range improvement projects, and other management actions would continue the general trend of habitat improvement and reduce competition for forage and cover among domestic livestock, wild horses, and wildlife.

2. Riparian habitat stubble height criteria would result in the gradual improvement of habitat conditions for species dependent on riparian habitat.

3. On upland habitat sites, adjustments of livestock use based on application of forage-specific utilization criteria would result in gradual improvement of upland wildlife habitat (cover; forage; grass, forb and shrub composition).

4. Big game populations are expected to be maintained by the commitment to provide sufficient forage and habitat for current big game populations. Actions taken to limit other resource uses and maintain important habitat areas (*e.g.*, limitations on OHV use; stipulations on land use activities within key big game habitat areas and special management areas) would help to

ensure that current populations are maintained.

Direct and Indirect Effects, by PRMP Section

Areas of Critical Environmental Concern

5. ACEC designations would indirectly or directly help maintain or improve wildlife habitats in those areas as a result of management to maintain ACEC values. Surface disturbing activities and other land use activities that may adversely affect wildlife are expected to occur less frequently in ACECs, thus helping to maintain wildlife populations and habitats. Management of the Birch Creek, Cronk's Canyon, Donkey Hills, and Thousand Springs ACECs for wildlife-related ACEC values would directly help maintain and improve key wildlife habitats and populations (see ***Chapter 4*** - ACECs).

Fisheries, Floodplains/Wetland Areas, Riparian Areas

6. Construction of riparian study exclosures and riparian pastures would provide for rapid riparian habitat recovery and allow application of carefully controlled grazing treatments that would improve habitat for riparian-dependent wildlife species.

7. Application of riparian stubble height and bank shearing criteria would result in rapid improvement of habitat conditions for riparian dependent wildlife species. Sage grouse, blue grouse, snipe, waterfowl, mule deer, and many other species would benefit directly from increases in residual cover and forage provided by stubble height requirements or other knowledgeable and reasonable practices. The improvement trend would be expected to continue over the long term.

8. Stipulations on right-of-way authorizations for new water diversion structures on BLM lands would help mitigate any potential for adverse effects on riparian habitat and riparian-dependent wildlife species. Actions to protect Federal water interests on public lands would ensure that water is maintained for wildlife and that water would remain available to provide for the needs of riparian-dependent species.

9. Riparian, fisheries, floodplain/wetland, and water quality management actions would supplement stubble height and bank shearing criteria and help maintain and improve riparian habitats (see Environmental Consequences - Water Resources). Population productivity and abundance of riparian dependent species would likely increase.

Forest Resources

10. Wildlife habitat would be maintained on forested areas or woodlands set aside to protect old growth forest, wildlife cover, and other resource values. However, loss of wildlife habitat or a decline in habitat suitability could occur in these areas due to (1) progressive stagnation of forest stands from lack of natural fire or lack of timber management, or (2) loss of forest stands to catastrophic fire.

11. Timber harvest and associated forest management activities would result in displacement of wildlife and reduced habitat suitability for many species of wildlife dependent on forested habitats.

12. Stipulations and limitations on forest management activities would help minimize adverse effects on wildlife. Limiting the size of Douglas-fir clearcuts to 10 acres would help maintain habitat suitability for big game and wildlife species associated with old growth forest. The decision to time forest stand management treatments to promote forest stand structure and diversity typical of all seral stages on a drainage basis would help maintain a diversity of wildlife habitats by providing for a mix of seral stages and stand characteristics that would promote the existence of a diverse wildlife community. Timber management and harvest in stands that are decadent would improve wildlife habitat if the harvest is designed to promote a more open stand structure and the recruitment of large-diameter trees and snags.

13. Clearcuts up to 40 acres in size (except in the Donkey Hills) would result in displacement of wildlife species and decline of habitat suitability for species dependent on lodgepole pine. However, clearcuts would promote regeneration of lodgepole stands, and populations of dependent species would be maintained. Seasonal harvest restrictions, road closures, and buffer strips adjacent to riparian areas would help maintain wildlife habitat values. Leaving 3 snag trees per acre after timber harvest would help mitigate the loss of nest sites for cavity nesting bird species.

Land Tenure and Access

14. Acquisition of high value wildlife habitats would provide additional opportunities for habitat improvement and management on acquired lands and adjacent public lands. Stipulations to retain lands in Federal ownership that are acquired for special resource values (including wildlife habitat) would ensure maintenance of those values to support wildlife populations.

15. Potential would exist for disposal of lands with wildlife values. Private development and use of lands transferred out of public ownership could result in partial or complete loss of wildlife values on those lands, depending on the type and extent of use or development, and the wildlife values that exist on those lands. The potential for loss of wildlife values on lands transferred out of public ownership is expected to be offset by acquisition of lands with equal or greater values and management of the acquired lands for those values.

16. State land exchanges may result in transfer of some key wildlife habitats out of Federal ownership. Effects on wildlife would depend on subsequent management of these lands by the State. In exchange for these lands, BLM would likely acquire other State lands that would contain high value wildlife habitats.

17. It is anticipated that some public lands would be patented under desert land entry (DLE) applications over the life of the RMP. It is not possible to predetermine the location or ultimate effects of these patents on wildlife

populations or habitat. If these DLEs involve key wildlife habitats such as winter ranges or birthing/nesting sites, potential would exist for loss of these values due to subsequent cultivation or other development. The site-specific effects of DLE patents would be analyzed in an environmental assessment. Limiting consideration of DLE applications to those lands within the proposed adjustment areas would ensure that wildlife habitats are protected on lands outside of adjustment areas.

18. Stipulations and restrictions on right-of-way applications across Federal lands would help reduce loss of wildlife habitat from surface disturbance and human activity associated with rights-of-way. Resolution of agricultural trespass through transfer of lands out of Federal ownership may result in loss or degradation of wildlife habitats. Stipulations to protect wetland riparian habitats and habitats for threatened or endangered species would help mitigate adverse effects. Termination of all new trespasses would protect and restore habitats that were degraded or damaged by unauthorized use.

Livestock Grazing

19. Upland and riparian studies implemented to monitor vegetation conditions and livestock use would provide useful data on wildlife habitat conditions. Adjustments of livestock use based on proposed utilization criteria, vegetation monitoring, revision of activity plans and other knowledgeable and reasonable practices to ensure rangeland health would generally improve wildlife habitat by improving the vigor, average height, and density of herbaceous vegetation. However, the presence of cattle and other livestock would displace some wildlife species from preferred habitats and reduce the availability of herbaceous forage and cover on some sites. The magnitude of effects would vary between wildlife species and from site to site. On big game ranges, grazing use would reduce available forage and birthing cover. Some studies, e.g. Leckenby *et al* 1986, suggest that moderate livestock grazing may improve forage conditions on elk ranges. Other studies (Westenskow-Wall, et. al. 1994) have questioned this conclusion. On sage grouse nesting/brood-rearing areas, grazing use would reduce hiding cover for sage grouse chicks and nests. On key wildlife habitat sites, the removal of herbaceous vegetation by livestock would have potential to reduce the productivity and survival of wildlife species dependent on herbaceous vegetation. Herbaceous cover on steep slopes, ridgetops and other areas that receive little or no grazing use would be unaffected and would remain available for use by species that are capable of meeting their habitat needs on these areas.

20. Closing some areas to livestock use (21,343 acres) and implementing planning/design requirements for land use activities within key big game habitat areas (bighorn sheep and elk winter ranges) would eliminate and reduce competition between livestock and wildlife for forage and space, and help ensure that habitat conditions are maintained or improved to support wildlife populations in these areas.

21. Actions taken to hold canceled or nonuse AUMs until allotment vegetation objectives are met would improve wildlife habitat on allotments where this occurs. Opportunities to withhold use of AUMs are infrequent, however, and this action would have only limited potential benefit.

22. Managing for potential natural plant communities (PNC) and watershed cover objectives would provide a natural mix of good condition plant communities to provide for the needs of most wildlife populations. The provision for managing some sites for desired plant communities other than the PNC would provide opportunity to maintain habitats for species that are better adapted to range sites in early or mid-seral stages, but would result in a decline of habitat condition for species that are best adapted to range sites in late-seral or PNC.

Minerals

23. The probability of fluid mineral development in the Resource Area is low. Standard lease stipulations that may be applied to any fluid mineral leases are expected to be adequate for preserving the physical characteristics of crucial habitat areas, minimizing human disturbance of big game animals during crucial periods, and protecting key habitat components for raptors, sage grouse, and other wildlife species. Stipulations on permitted activities on or near important wildlife habitat areas (see PRMP: Wildlife Habitat, Goal 2, #8) would help mitigate adverse effects from energy mineral development on wildlife habitats and populations.

24. Sale of mineral materials would have potential for limited loss and degradation of wildlife habitat and disturbance of wildlife. However, the number of sale sites and acres disturbed would be small and potential for adverse effects would be limited. Selection of alternate sites or other considerations may mitigate adverse effects in most situations. Stipulations and limitations on mineral material sales within riparian areas would minimize potential for adverse effects on riparian dependent wildlife populations.

25. Non-energy mineral development would have little or no potential to affect wildlife due to the low potential for occurrence of non-energy minerals in the RA.

26. Locatable mineral development would have the potential to result in site-specific loss and degradation of wildlife habitat, or disturbance of wildlife on sites where mineral development occurs. The likelihood of significant loss or degradation of habitat would be low, unless extensive development occurred on key wildlife habitats within areas of high mineral occurrence (see *Map 30: Locatable Minerals Land Classification*). Designation of the Birch Creek ACEC, Donkey Hills ACEC, Cronk's Canyon ACEC and Thousand Springs ACEC would help limit the potential for adverse effects from locatable mineral development. Withdrawal of suitable WSAs from locatable mineral development and limitations on mineral development in riparian areas would help mitigate any adverse effects from mineral development on important wildlife habitats or

populations in those areas.

Off-Highway Vehicle Use

27. Limiting motorized vehicle use to existing roads and vehicle ways throughout the RA, and adopting additional closures or limitations in specific areas (e.g., Lone Bird ACEC, Sand Hollow ACEC, Burnt Creek WSA, Jerry Peak WSA), would help prevent damage to wildlife habitats from motorized vehicle use and limit disturbance of wildlife populations.

28. Motorized vehicle seasonal use limitations in the Birch Creek ACEC, Donkey Hills ACEC, Old Stage Road, Carlson Hills, Willow Creek Summit elk winter range, and Second Spring Basin would help ensure that big game populations in these areas are protected from human disturbance and stress-related mortality during crucial winter periods, and help prevent damage to wildlife habitats from OHV use during the wet spring period.

Rangeland Vegetation Treatment and Range Improvement Projects

29. The effects of new range improvements on wildlife habitat would vary, depending on the type of project, location, and size. Range improvements generally change patterns of livestock use, and these changes may reduce wildlife cover and forage on areas that previously received little or no livestock use. Range improvements may also result in lighter livestock use on some areas, resulting in an improvement of wildlife forage and cover. Requiring range improvement projects to be functional prior to livestock turnout would help improve livestock distribution and avoid overuse of wildlife forage and cover on many riparian and upland habitat sites.

30. Livestock water developments located on big game winter ranges would lead to greater use of forage that would otherwise be available to wintering big game. Water developments located away from important winter ranges may lead to lighter grazing pressure and increased availability of forage for wintering big game. In areas where lack of water limits use by big game, new water developments may improve the area's suitability for big game and other wildlife species. The use of an ID team during planning would help avoid some of the adverse effects of new water developments on important wildlife habitat areas.

31. New fences may improve wildlife forage and cover by improving livestock distribution and alleviating livestock concentration problems. However, fences can adversely affect big game animals by restricting movements between habitat areas or foraging areas and by hampering escape from predators. All fences have potential to increase wildlife mortality and injury through entanglement or collision. Design specifications requiring three-wire fences (except around riparian habitats and in domestic sheep allotments) would help alleviate some of the adverse effects of fences on wildlife movements, because big game animals can more easily pass through 3-wire fences.

32. Vegetation treatments may be located and designed to increase the availability and quality of wildlife forage and cover. Prescribed burning in particular would improve forage availability for big game species such as elk or bighorn sheep that are attracted to burned areas. Vegetation treatments can result in loss of important forbs, or the loss of significant browse or shrub cover if conducted on wildlife winter ranges. Loss of shrubs or forbs would reduce the abundance of some wildlife species in the area of the treatment or displace wildlife into adjacent habitats, depending on the location, design, or seed mix used. Stipulations on the design of vegetation treatments, development of treatment objectives, establishment of standards, interdisciplinary team involvement, and post-treatment forage allocations would significantly reduce or mitigate the potential for adverse effects on wildlife habitat and populations. Sagebrush-dependent wildlife species, such as sage grouse, antelope and Brewer's sparrows are likely to decline or be displaced regardless of the project's design if the treatment were carried out in a key habitat area.

Special Status Species

33. A biological assessment of potential effects on threatened or endangered wildlife species was prepared as required by the ESA. Consultation with the USFWS on this biological evaluation concluded that the PRMP may affect, but is not likely to adversely affect, any threatened, endangered or candidate terrestrial wildlife species.

34. Standard operating procedures requiring site-specific field assessments and analysis of management actions through the NEPA process would ensure consideration of potential effects on special status species from authorized actions. Prediction of effects from PRMP management decisions on special status species is limited by lack of specific locations and plans for future land use activities. Potential effects would vary widely between species, due to differences in habitat preferences and sensitivity to human disturbance or different types of land uses. In general, some special status animal species would benefit from maintenance and improvement of wildlife habitat condition, as described elsewhere in this analysis. For example, riparian habitat improvements would improve conditions for riparian-dependent species such as the river otter or spotted frog.

35. Requirements for site-specific field assessments and inventories or surveys for special status animal species would increase the amount and quality of biological data (*i.e.*, distribution of populations and habitat preferences) on special status animal species in the Resource Area. Better biological data would permit the incorporation of design specifications and other mitigation measures to avoid or reduce the potential for adverse effects. Design specifications or seasonal restrictions on human activities in special habitat areas (see PRMP: Wildlife Habitat, Goal 2, #8) would reduce or eliminate the potential for adverse effects on some populations of special status species, particularly raptors.

Wilderness Study Areas - Management if Released

36. Existing WSAs provide big game habitat that is relatively secure from motorized vehicle disturbance and other human activities as a result of restrictions on resource development, low road densities and limitations on motorized vehicle use. Motorized vehicle use and potential increases in new road construction and timber harvest activity in WSAs released from wilderness review would have the potential to displace big game animals into adjacent habitat areas or cause a decline in habitat condition. The two road closures in WSAs released from wilderness review would help protect wildlife habitat from damage by motorized vehicles and maintain habitat for big game animals that is secure from human disturbance. Limitations on new road construction, timber harvest and mineral development in WSAs, if released from wilderness review would help minimize adverse effects on wildlife habitat by helping reduce potential for disturbance or habitat degradation from motorized vehicle use or other land use activities.

Wild Horses and Burros

37. Maintaining existing numbers of wild horses would preclude improvement of wildlife habitat condition on some riparian and upland habitat sites in the Wild Horse Herd Management Area (HMA). The abundance and use by riparian dependent wildlife species would remain low on sites in the Corral Basin Creek and Horse Basin Creek watersheds, where most of the concentrated wild horse use occurs. Other effects of wild horse use on wildlife would be the same as described above for livestock grazing and wildlife species dependent on herbaceous vegetation (see #19). If wild horse numbers are reduced to improve resource conditions, wildlife habitat would improve.

Wildlife Habitat

38. Big game populations are expected to be maintained by the commitment to provide sufficient forage and habitat for current big game populations. If it is determined that forage competition between big game and livestock is causing a decline in habitat conditions, actions would be taken in consultation with livestock operators and the IDFG to resolve the conflict and improve habitat conditions. Reduction of big game numbers in the problem area may occur, if necessary to improve habitat conditions.

39. The requirement to plan, design, and manage land use activities on key bighorn and elk habitat areas to ensure the continued viability of these big game populations would help minimize the potential for competition between livestock and wildlife, and reduce potential for stress, mortality or population declines associated with conflicting land use activities in these areas.

40. Installation of wildlife water developments, modification of fences, use of prescribed fire, and providing wildlife water would improve habitat quality for big game, upland game, and nongame wildlife. Such projects would have potential to enhance habitat suitability and quality on up to 90,000 acres of public lands. More efficient range use by antelope (Copeland 1980), upland game birds, and nongame species would be expected. Implementing a formal program to maintain water for wildlife at key locations would have the potential to improve habitat suitability on extensive areas.

41. Construction of nesting platforms on BLM lands along the Salmon River would improve habitat suitability for ospreys and increase numbers of nesting pairs. In waterfowl habitat areas, construction of fences and placement of nest boxes, platforms, or nesting islands would increase the productivity of the Resource Area's waterfowl populations by increasing nesting cover.

42. Continued coordination with the U.S.D.A. Animal and Plant Health Inspection Service (APHIS) on animal damage control (ADC) activities on the RA's public lands would help ensure that ADC activities have no significant adverse effects on wildlife populations. Effects of the current ADC program were analyzed in an environmental assessment (EA) completed in October, 1993. The EA states that coyote and other populations would not be significantly affected by animal damage control. The EA would be updated by APHIS before any changes in the current program would be approved.

43. Restrictions and design requirements for BLM permitted activities in important big game habitats, raptor nesting territories, sage grouse strutting grounds, and fawning/calving areas, etc. would help prevent adverse effects on important habitat areas; reduce the potential for disturbance and associated stress or mortality from human activity during crucial winter, birthing, and rearing periods; and reduce the potential for decline of wildlife numbers and reproductive success.

44. Reintroductions of bighorn sheep or other native wildlife species into historic ranges or habitat areas may result in establishment of viable populations of native species that would otherwise remain absent from unoccupied habitats. Existing populations may be augmented by introducing additional animals to improve genetic viability and stability. IDFG proposals to reintroduce bighorn sheep into historic range around Jerry Peak, Germer Peak, and the Sheep Mountain area of the Herd Creek watershed are not anticipated to conflict with existing or future land uses. Any conflicts would be resolved through the ID team process, or the reintroduction would not occur.

Wild and Scenic Rivers

45. Wildlife habitats and populations associated with free-flowing streams and rivers (*e.g.*, river otters) would be protected from hydropower development on rivers found suitable for designation, or eligible for further study as wild and scenic rivers. Limitations on development along four segments with a tentative classification of Scenic or Wild would help protect habitat for riparian-dependent species along the river corridor.

Cumulative Effects

46. Factors such as weather, predation, disease, forage competition, hunter harvest, and subdivision or development of private lands may limit the productivity of big game populations over the long term. Habitat conditions on adjacent USFS lands (including management of roads and timber harvest) may also affect big game populations dependent on both USFS and public lands. However, big game populations are expected to be maintained over the long term.

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47. Populations of riparian-dependent wildlife species would be maintained, although the abundance of some species is expected to decline as a result of habitat degradation or loss on adjacent private lands. Some populations of riparian-dependent neotropical migratory bird species are expected to decline due to the fragmentation and loss of winter habitats in the southern U.S. and countries to the south.

48. Populations of upland game birds are expected to be maintained. Climate, predation, and disease would continue to be the primary factors affecting the stability of upland game bird populations. Potential would exist for further declines in sage grouse populations due to the effects of climate, region-wide alterations of sagebrush-grassland habitat and other unknown factors. Implementation of PRMP decisions and management strategies that improve vegetation conditions would contribute to the maintenance of sage grouse and other upland game bird populations

49. Cumulative effects on nongame wildlife populations would vary widely by species. Populations of some neotropical nongame birds are likely to decline as a result of habitat degradation and loss in southern wintering areas. Populations of other riparian-dependent and upland-dependent species are expected to be maintained. Emphasis on suppression of wildfires on public, private, State and National Forest lands in the region is generally expected to continue, along with timber harvest practices selecting for large-diameter trees. Due to this emphasis, forested areas characterized by a mix of forest stands in early to late-seral stages, and large diameter trees and snags would continue to decline. The abundance of wildlife species dependent on these forested habitats are also expected to decline. PRMP stipulations on forested area management, buffer zones around sensitive raptor habitats, maintenance of undisturbed areas, and other forest resource and fire activity management actions would help mitigate these declines.

Wild and Scenic Rivers

Introduction: At present, no Wild and Scenic Rivers (WSR) are designated in the Challis Resource Area. The Wild and Scenic Rivers Act directs the BLM to manage rivers found eligible or suitable for possible inclusion into the National Wild and Scenic Rivers System in a manner that protects and/or enhances the outstandingly remarkable (OR) values and the free-flowing and water quality characteristics which caused the rivers to be found eligible. PRMP actions affecting eligible and suitable rivers must not degrade those values. Accordingly, the PRMP would provide at least the minimum standard of protection for eligible and suitable rivers required by the Wild and Scenic Rivers Act. Specific protection strategies would be developed in activity plans.

No Reasonably Foreseeable Effects to Wild and Scenic Rivers: Decisions listed in the PRMP under the following sections would have no reasonably foreseeable effect on Wild and Scenic Rivers: Air Quality, Hazardous Materials Management, Tribal Treaty Rights, Wilderness Study Areas - Management if Released from Wilderness Review, and Wild Horses and Burros.

Summary of Effects

1. The PRMP finds 5 river segments suitable for WSR designation and identifies 10 river segments as eligible for a coordinated river suitability study. These 15 rivers would receive the protection required by the WSR Act, unless later found unsuitable or released by Congress. PRMP actions which improve wildlife and fisheries habitat, water quality, riparian health, and watershed protection would provide high levels of protection to natural and aesthetic values. Thus, WSR values on all 15 segments would be maintained and probably enhanced.

Positive Effects

2. PRMP actions which go beyond the minimum protective requirements of the WSR Act would benefit WSRs by enhancing the values which have been identified. WSR-enhancing actions include PRMP decisions which are expected to improve natural and aesthetic values, riparian area health, visual quality, fish and wildlife habitat (including habitat for special status species), and primitive and some developed recreation opportunities (such as camping, interpretation, fishing, hunting, and sightseeing). Specific examples of such activities include (a) stabilizing riverbanks, which would decrease sedimentation, improve the natural visual appearance, and increase fish presence; (b) limiting or closing areas to OHV use to maintain wildlife lifecycle needs, protect fragile soils, and maintain visual aesthetics; (c) designing range, timber, and wildlife projects to be less visually intrusive; (d) modifying livestock grazing management on upland watersheds and riparian areas; (e) modifying fire suppression practices (*e.g.*, moving fire suppression staging areas and base camps outside of riparian areas); (f) limitations on new road construction in riparian areas; (g) acquiring wetlands and fish habitat within the WSR corridor; (h) minimum streamflow acquisition; (i) modified timber harvest practices (*e.g.*, clearcutting restrictions, riparian buffer zones); (j) increased standards for vegetative cover, and (k) recreation site development in segments with a tentative classification of "Scenic" or "Recreational."

Negative Effects

3. The types of actions listed above under "Positive Effects" would decrease the potential for adverse effects on WSR values. Some negative effects on WSR values could still occur (but not more than allowed by the WSR Act or other PRMP direction) from actions such as livestock grazing, road construction, and recreation facilities development in riparian areas, site-specific vegetation treatments, some OHV use, mineral and timber harvest practices which cause surface and visual disturbance, and transportation routes which intrude into the WSR corridor.

Cumulative Effects

4. The cumulative effects of BLM actions would be the same as described above in the "Summary of Effects."

USFS actions on rivers which flow into BLM study segments could have a positive or negative impact on WSR values in those segments, specifically water quality and OR fisheries values, depending on USFS management decisions.

Current uses of private lands along or adjacent to WSR segments could benefit WSR values by providing wildlife habitat and access to rivers and riparian areas. Changing private land uses (*e.g.*, conversion of hay grounds into residential subdivisions) could increase conflicts between land users, reduce visual aesthetics, decrease recreation use and access opportunities on private lands, and increase recreation demand on BLM lands.

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Chapter 5

Consultation, Coordination, Consistency, and Comments and Responses

Introduction.

The Bureau of Land Management coordinated with Federally recognized tribes, representatives of various agencies, businesses, and organizations, and members of the general public throughout the planning process for the Challis RMP. ***Chapter 5*** provides details of those efforts in the following chapter sections: (a) consultation; (b) coordination (c) consistency efforts and determinations; (d) agencies, organizations, and persons who will be sent a copy of the Proposed RMP/Final EIS, and (e) comment letters and responses. Further information on tribal and public involvement during preparation of the Challis RMP is documented in the **Planning Record** (available for review at the Salmon Field Office, Highway 93 South, Salmon, Idaho).

Consultation.

Consultation with the Shoshone-Bannock Tribes:

The sovereign status of Indian tribes and special provisions of law set Native Americans apart from all other U.S. populations and define a special level of Federal agency responsibility to consult tribes on a government-to-government basis. The BLM has the responsibility to identify and consider how its plans, projects, programs, or activities may potentially impact Native American interests, including Indian trust resources and cultural resources.

The lands presently managed by the Challis Resource Area were transferred to the United States government by the Shoshone-Bannock Tribes through the signing of the *Treaty with the Eastern Band Shoshoni and Bannock* ("Fort Bridger Treaty") in 1868. Through treaty language, the Shoshone-Bannock tribal members retain legal rights to hunt, fish, and gather natural resources ("to obtain wild food") on public lands within the Challis Resource Area (Article 4 of the *Treaty with the Eastern Band Shoshoni and Bannock, 1868*; as clarified in *State v. Tinno* (1972)). Representatives of the Shoshone-Bannock Tribes were consulted during development of the Challis RMP to ensure that the Tribes' treaty rights and traditional cultural values are protected.

Consultation with the National Marine Fisheries Service and U.S. Fish and Wildlife Service:

In the spring of 1997 the BLM received concurrence on the Biological Assessment (BA) for the Challis Draft RMP - Preferred Alternative from the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service. In 1998 the BLM re-initiated consultation with these agencies and prepared a Biological Assessment for the Challis Proposed RMP because (a) several species had been listed as threatened since the agencies concurred with the BA for the Draft RMP, and (b) the Proposed RMP was somewhat different from the Draft RMP - Preferred Alternative. The BLM has received concurrence from the NMFS and the U.S. Fish and Wildlife Service on the BA for the Proposed RMP.

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Coordination.

Tribal and public participation efforts which were implemented prior to publication of the Challis Draft RMP/EIS are described in the Draft RMP/EIS on pages 335-341. The following paragraphs summarize the tribal and public participation from publication of the Draft RMP/EIS until publication of the Proposed RMP/Final EIS.

In August 1996 the Challis Draft RMP/EIS was distributed to those individuals and representatives of Indian tribes, the media, government agencies, businesses, and special interest organizations who have, in the past, expressed an interest in land use planning in the Challis Resource Area. A "Notice of Availability" of the Draft RMP/EIS was published in the *Federal Register* by the BLM on Friday, August 2, 1996 and by the Environmental Protection Agency on Friday, August 9, 1996. Open-house style meetings were held at the BLM's Challis Field Station in Challis, Idaho on October 1 and 2, 1996 to discuss the Draft RMP/EIS and receive comments.

The original 90-day public comment period for the Draft RMP/EIS was scheduled to end on Thursday, November 21, 1996. However, based on requests by members of the public, the comment period was extended by 46 days to Monday, January 6, 1997. Notice of that extension was published by the BLM in the Friday, November 1, 1996 edition of the *Federal Register*. In addition, a general mailing explaining the comment period extension was sent to all persons and agencies who had received a copy of the Draft RMP/EIS. Finally, the amended comment period deadline was announced through the local media.

The BLM reviewed the written comments on the Challis Draft RMP/EIS which were submitted, and prepared responses to those letters. Photo-reduced copies of the original comment letters and the BLM's responses are shown beginning on page 457.

Involvement of the Challis Experimental Stewardship Program (ESP):

The Challis Experimental Stewardship Program (ESP) was authorized under Section 12 of the Public Rangeland Improvement Act of 1978 (PRIA) (43 USC 1908) to "...develop and implement, on an experimental basis on selected areas of the public rangelands which are representative of the broad spectrum of range conditions, trends, and forage values, a program which provides incentives to, or rewards for, the holders of grazing permits and leases whose stewardship results in an improvement of the range condition of lands under permit or lease. Such a program shall explore innovative grazing management policies and systems which might provide incentives to improve range conditions." The Challis ESP, as well as other organizations and individuals interested in management of the public resources, including, but not limited to, rangelands, were invited to participate in the development of the Challis RMP. Briefings and updates concerning development of the RMP were a routine agenda item for meetings of the Challis ESP Group.

Consistency Efforts and Determinations.

The BLM has reviewed the Challis Proposed RMP and believes the Plan is consistent with the officially approved or adopted resource-related plans, policies, and programs of other Federal agencies, State and local governments, and Indian tribes.

Agencies, Organizations, and Persons to Whom a Copy of the Challis Proposed RMP/Final EIS Will Be Sent.

Shown below is a partial list of the tribes, agencies, organizations, and persons who will be sent a copy of the Challis Proposed RMP/Final EIS.

Federal Agencies

U.S. Fish and Wildlife Service
National Marine Fisheries Service
National Park Service
Minerals Management Service
U.S. Geological Survey
U.S. Air Force
U.S. Army Corps of Engineers
U.S. Department of Energy
Environmental Protection Agency
Advisory Council on Historic Preservation
USDI Office of Environmental Policy
USDI Office of Communications
USDI Natural Resources Library
Director, Bureau of Land Management
Bureau of Reclamation
U.S. Forest Service

Native American Tribes:

Northwestern Band of the Shoshoni
The Shoshone-Bannock Tribes

State and Local Government:

Custer County Extension Agent
Lemhi County Extension Agent
Challis Chamber of Commerce
Mackay Public Library
Salmon City Mayor
Butte Soil & Water Conservation District
Lemhi Soil & Water Conservation District
ID Department of Water Resources
ID Department of Lands
ID Department of Health and Welfare
Idaho State Library
Idaho State Historical Society, SHPO
ID Department of Fish & Game
ID Department of Lands
ID Department of Agriculture
ID Department of Transportation
Office of the Governor, Idaho
Natural Resource Conservation Service

Congressional and Legislative Offices:

Larry Craig, U.S. Senator
Mike Crapo, U.S. Congressman
Dirk Kempthorne, U.S. Senator
Lenore Hardy Barrett, State Representative

Businesses, Media, Interest Groups, Other Organizations, Livestock and Recreation Permittees, and Individuals:

In addition to the specific businesses, interest groups, media contacts, other organizations, and livestock and recreation permittees listed below, more than 100 individuals will be sent a copy of the Challis PRMP/FEIS.

Horse Creek Outfitters
C&S River, Inc.
Outlaw Outfitters
4-4 Outfitters
Bill Mason Outfitters
L-B Fishing & Guide Service
Sawtooth Guide Service
White Cloud Outfitters
Hatch Livestock
Chamberlain Ranch
Prairie Basin Ranches
Moen Family Ranch
Circle PI Ranch
Bar G Farms
Aslett Ranches
Whitworth Ranches, Inc.
Sulphur Creek Livestock Co.
Dickey Livestock
Bar 13 LTD
Spur Cattle
Rena Ranch
Piva Brothers
Winter Camp Cattle Co.
D & L

Parsons Creek, Inc.
Idaho State University
Boulder-White Clouds Council, Inc.
Challis Creek Cattle Co.
Utah Power & Light
Alliance for the Wild Rockies
University of Idaho
Animal Welfare Institute
The Nature Conservancy
Churndasher Ranch
Greystone
Minerals Exploration Coalition
Thompson Creek Mining Co.
Mountain Springs Ranch
O'Neal Ranches
Chester Plumbing
Challis Messenger
Broebeck Phleger & Harrison
Natural Resource Defense Council
Idaho Conservation League
National Wildlife Federation
The Wilderness Society
Idaho Watersheds Project

Comment Letters and Responses.

Written comment letters on the Draft RMP/EIS were reviewed by the Challis Resource Area - BLM Planning Team (see *Table 1-1: List of Preparers*, pp. 15-16) according to criteria described in BLM Manual H-1790-1 (National Environmental Policy Act Handbook) on pages V-11 and V-12. This BLM Manual guidance is based upon implementing regulations set forth in 40 CFR 1502.19, 1503.3, 1503.4, and 1506.6. (Also see Department of Interior Manual 516 DM 4.17.) Comments were considered to be one or more of the following general types:

(a) *Comments on inaccuracies and discrepancies* - which generally identified inaccuracies or discrepancies in factual information, data, or analysis.

(b) *Comments on the adequacy of the analysis* - which expressed a professional disagreement with the conclusions or adequacy of the analysis.

(c) *Comments which identify new impacts, alternatives, or mitigation measures* which were not addressed in the Draft RMP/EIS.

(d) *Comments which disagree with determinations regarding the significance and/or severity of impacts.*

(e) *Comments which express the commentor's personal preference or opinion* on the proposal.

The following pages contain photo-reduced copies of the original comment letters on the Challis Draft RMP/EIS and the BLM's responses to those comments. Personal information (such as names, addresses, telephone numbers, and fax numbers) has been opaqued from comment letters submitted by individual respondents, in order to protect those individuals' privacy interests, while still making comments available to the public. This information is withheld in accordance with BLM guidance interpreting Exemption 6 of the Freedom of Information Act.

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Comment Letters and Responses

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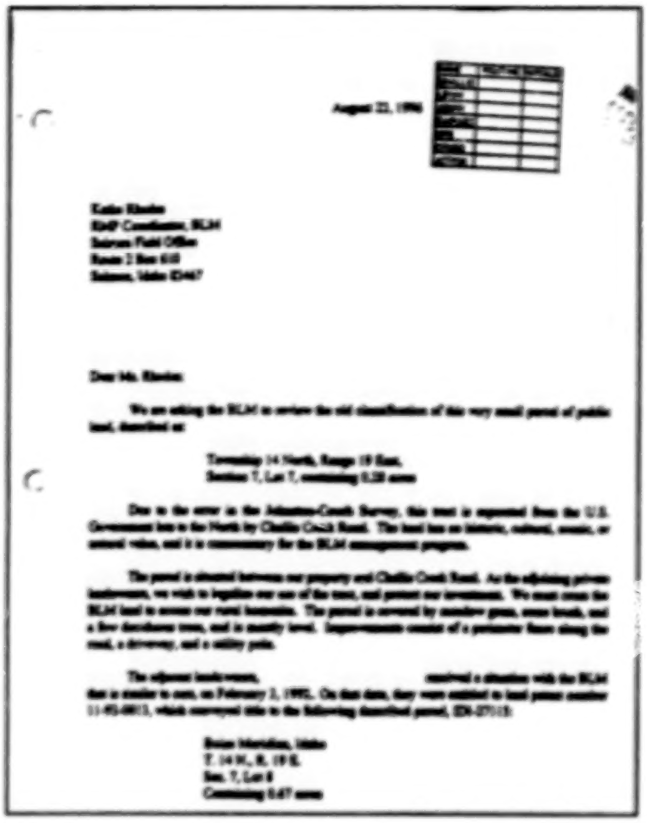
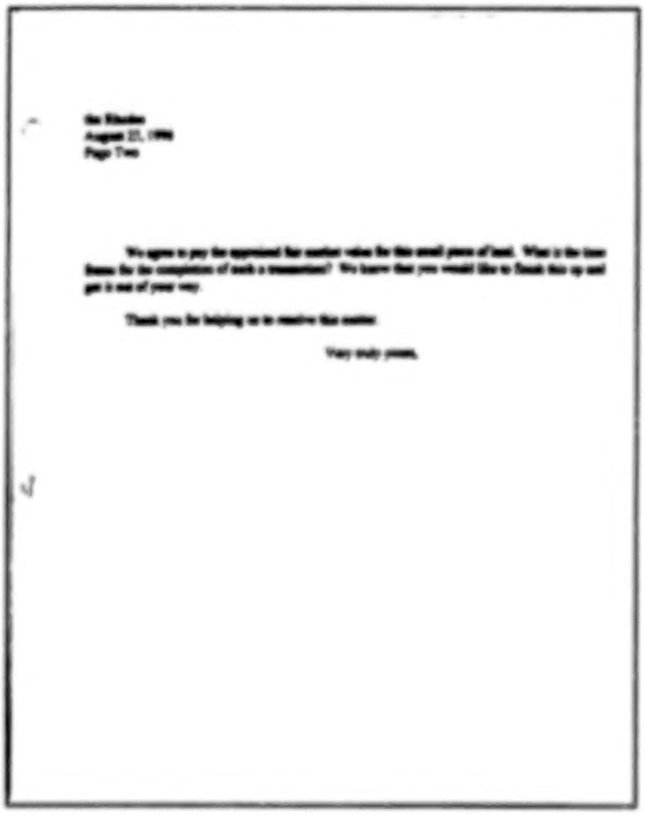
Letter No. 1



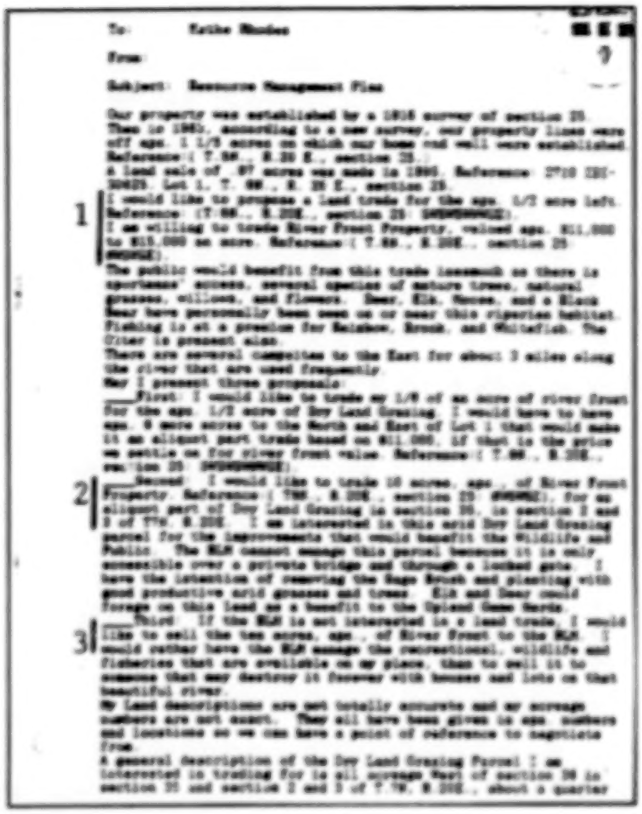
Letter No. 1 *continued*



BLM Response to Letter No. 1

1-1: The BLM public lands you are interested in acquiring (T14N, R19E, Section 7, Lot 7) were proposed for consideration as a sale tract under Alternatives 2 and 3 of the Draft RMP (see Attachment 17, p. 499). This sale tract has been listed in the Proposed RMP for potential disposal (see PRMP, Attachment 17).

Letter No. 2



To: Kathe Rhodes

From:

Subject: Resource Management Plan

Our property was established by a 1916 survey of section 25. Then in 1981, according to a new survey, our property lines were off apx. 1 1/5 acres on which our home and well were established. Reference:(T.8N., R.20 E., section 25.)

A land sale of .97 acres was made in 1985. Reference: 2710 IDI-20625. Lot 1, T. 8N., R. 20 E., section 25.

1 I would like to propose a land trade for the apx. 1/2 acre left. Reference: (T.8N., R.20E., section 25: SWSWSWNWSE).
I am willing to trade River Front Property, valued apx. $11,000 to $15,000 an acre. Reference:(T.8N., R.20E., section 25: NWSWSE).

The public would benefit from this trade inasmuch as there is sportsmans' access, several species of mature trees, natural grasses, willows, and flowers. Deer, Elk, Moose, and a Black Bear have personally been seen on or near this riparian habitat. Fishing is at a premium for Rainbow, Brook, and Whitefish. The Otter is present also.

There are several campsites to the East for about 3 miles along the river that are used frequently.

May I present three proposals:

First: I would like to trade my 1/8 of an acre of river front for the apx. 1/2 acre of Dry Land Grazing. I would have to have apx. 8 more acres to the North and East of Lot 1 that would make it an aliquot part trade based on $11,000. If that is the price we settle on for river front value. Reference:(T.8N., R.20E., section 25: SWSWSWNWSE).

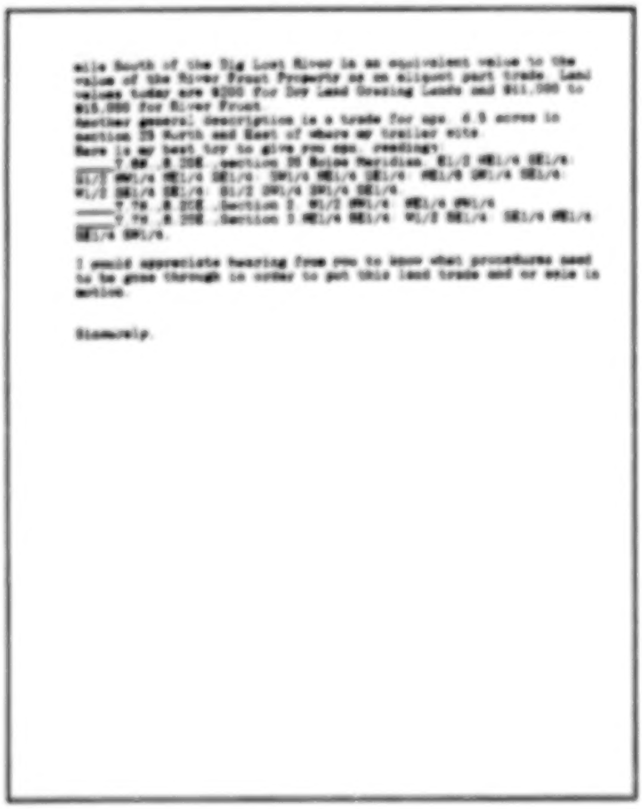
2 Second: I would like to trade 10 acres, apx., of River Front Property. Reference:(T8N., R.20E., section 25: NWSWSE). For an aliquot part of Dry Land Grazing in section 35, in section 2 and 3 of T7N, R.20E. I am interested in this arid Dry Land Grazing parcel for the improvements that would benefit the Wildlife and Public. The BLM cannot manage this parcel because it is only accessible over a private bridge and through a locked gate. I have the intention of removing the Sage Brush and planting with good productive arid grasses and trees. Elk and Deer could forage on this land as a benefit to the Upland Game Herds.

3 Third: If the BLM is not interested in a land trade, I would like to sell the ten acres, apx., of River Front to the BLM. I would rather have the BLM manage the recreational, wildlife and fisheries that are available on my place, than to sell it to someone that may destroy it forever with houses and lots on that beautiful river.

My land descriptions are not totally accurate and my acreage numbers are not exact. They all have been given in apx. numbers and locations so we can have a point of reference to negotiate from.

A general description of the Dry Land Grazing Parcel I am interested in trading for is all acreage West of section 36 in section 35 and section 2 and 3 of T.7N, R.20E., about a quarter

Letter No. 2 *continued*



mile South of the Big Lost River in an equivalent value to the value of the River Front Property as an aliquot part trade. Land values today are $200 for Dry Land Grazing Lands and $11,000 to $15,000 for River Front.

Another general description is a trade for apx. 4.5 acres in section 25 North and East of where my trailer sits.

Here is my best try to give you apx. readings:
T 8N ,R 20E ,section 35 Boise Meridian: E1/2 NE1/4 SE1/4:
E1/2 NW1/4 NE1/4 SE1/4: SW1/4 NE1/4 SE1/4: NE1/4 SW1/4 SE1/4:
W1/2 SE1/4 SE1/4: E1/2 SW1/4 SW1/4 SE1/4.
T 7N ,R 20E ,Section 2: W1/2 NW1/4: NE1/4 NW1/4
T 7N ,R 20E ,Section 3 NE1/4 NE1/4: W1/2 SE1/4: SE1/4 NE1/4
SE1/4 SW1/4.

I would appreciate hearing from you to know what procedures need to be gone through in order to put this land trade and or sale in motion.

Sincerely,

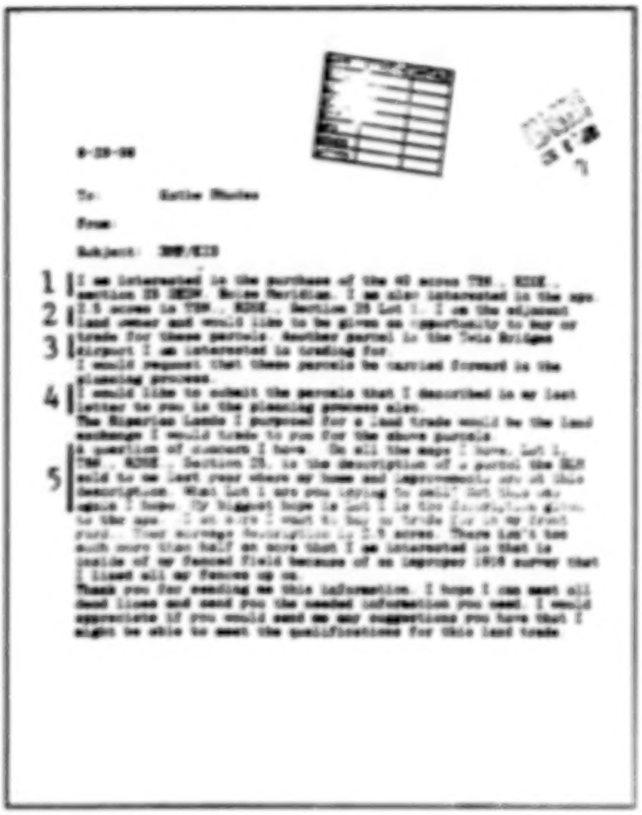
BLM Response to Letter No. 2

2-1: The BLM considered your proposal to exchange your river front property (T8N, R20E, Section 25, NWSWSE) for the 0.5 acres of public lands located adjacent to your private land (T8N, R20E, Sec. 25, SWSWSWNWSE). The BLM has decided to retain this 0.5 acres as a management area in the Proposed RMP because (1) this parcel does not meet the FLPMA criteria for disposal by sale and (2) a land exchange involving this small amount of acreage would not be cost-effective.

2-2: The public lands you would like to acquire through exchange (T7N, R20E, Sections 2 and 3, and T8N, R20E, Section 35) are not identified for disposal in the Proposed RMP. Please note that T7N, R20E, Section 2 is National Forest land and cannot be considered for disposal by the BLM. The public lands you reference in T7N, R20E, Section 3 and T8N, R20E, Section 35 are part of a grazing allotment and would continue to be managed by the BLM for multiple uses, as described in the PRMP.

2-3: Your offer is noted.

Letter No. 3



BLM Response to Letter No. 3

3-1: You express interest in a purchase or land exchange for 40 acres of public land located along the Big Lost River in T8N, R20E, Sec. 25, SESW. This parcel is identified in the Proposed RMP as an area available for disposal through exchange (see adjustment areas on Map A: Adjustment/Management Areas). It is not identified as a sale tract in Attachment 17, because it does not meet the FLPMA Section 203 criteria for disposal through sale.

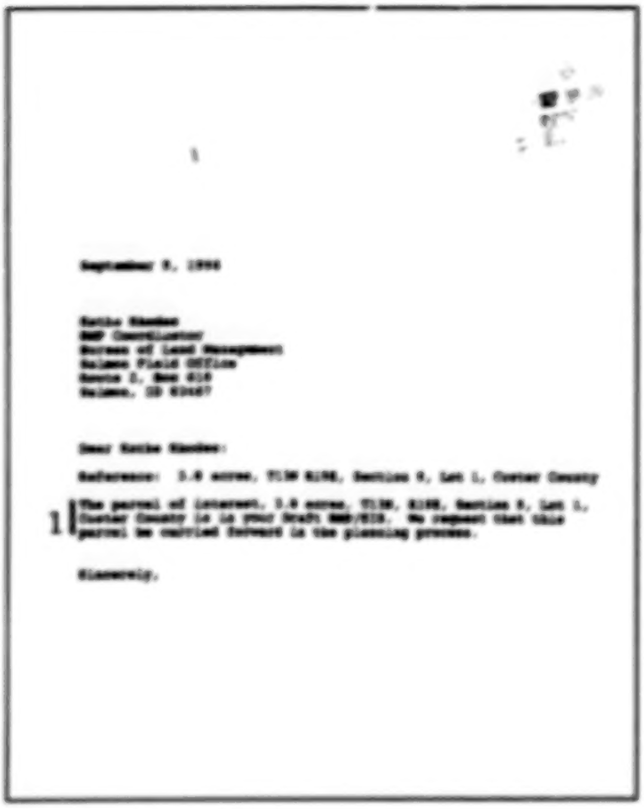
3-2: You express interest in purchasing or exchanging lands for about 2.5 acres in T8N, R20E, Section 25, Lot 1. As you mention later in your letter, you purchased .97 acres of this tract in 1995 (see response 3-5). The remaining acreage (approximately 0.5 acres) has not been identified for disposal in the Proposed RMP (please see response 2-1).

3-3: You express interest in acquiring the Twin Bridges Airport through exchange or purchase. The airport is currently under a 20-year Airport Lease with the Department of Aeronautics (until the year 2014). The BLM plans to continue authorizing the lease to the Department of Aeronautics for the purpose intended, which is as a public airstrip for emergencies and backcountry flights. The decision in the proposed RMP (Land Tenure and Access, Goal 2, #10) has been revised to clarify the BLM's intent to sell or exchange these public lands only to the State of Idaho.

3-4: Please see the responses to Letter 2.

3-5: The parcel listed in the Draft RMP, Attachment 17 (p. 399) as T8N, R20E, Section 25, Lot 1, included the .97-acre parcel sold to you in 1995. The Draft RMP was ready for press when you purchased the parcel, so the BLM decided to make the correction in the Proposed RMP. The public lands you purchased are not identified for disposal in the Proposed RMP.

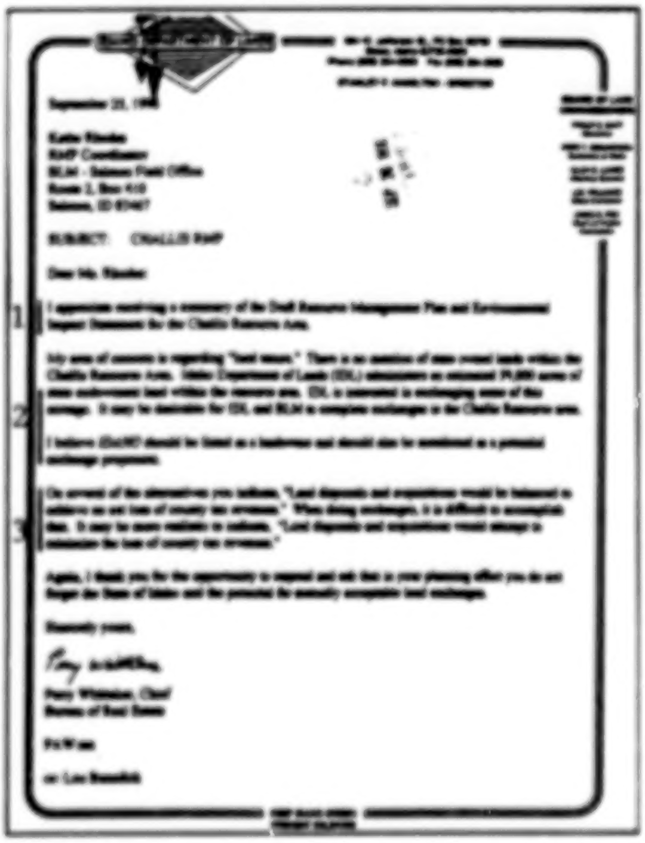
Letter No. 4



BLM Response to Letter No. 4

4-1: The BLM public lands you are interested in acquiring (T13N, R19E, Section 9, Lot 1) were proposed for consideration as a sale tract under Alternatives 2 and 3 of the Draft RMP (see Attachment 17, p. 499). This sale tract has been listed in the Proposed RMP for potential disposal (see PRMP, Attachment 17).

Letter No. 5



BLM Response to Letter No. 5

5-1: The Draft RMP lists the State of Idaho as an owner of lands within the Challis Resource Area boundary (see DRMP, p. 91, paragraph 3; p. 92, Table 3-6; and Map G: Land Ownership).

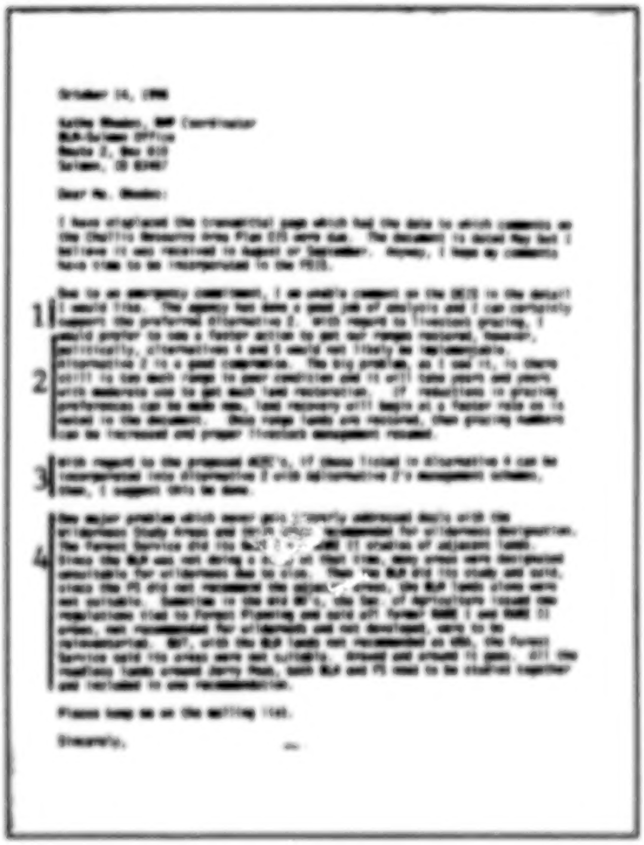
5-2: The Draft RMP mentions the State of Idaho as a potential exchange proponent (see DRMP, Management Concern: Land Tenure, Goal 1, #6 (p. 386) and #13 (p. 388); Goal 2, #8 and 9 (p. 389); and Map A: Adjustment/Management Areas). Land Tenure, Goal 2, #8 (DRMP, p. 389) specifically identifies approximately 36,915 acres for exchange only with the State of Idaho. Those acres are in addition to others identified for disposal with any proponent, as displayed on Map A. The Proposed RMP continues to make 37,035 acres available for exchange only with the State of Idaho (see PRMP, Land Tenure and Access, Goal 1, #6 and 13, and Goal 2, #7 and 8). In addition, the Proposed RMP revises a land tenure decision from the Draft RMP, Alternative 2, in order to clarify that two airport sites are available for sale or exchange only to the State of Idaho (see PRMP, Land Tenure and Access, Goal 2, #9).

5-3: The action you refer to (Land Tenure, Goal 2, #1, Alternatives 2, 4, and 5, p. 388a/b) has been revised in the Proposed RMP to reads as follows: "Offer sufficient public

BLM Response to Letter No. 5 *continued*

lands for sale or exchange to mitigate loss of tax revenue to Custer or Lemhi counties that may occur as a result of BLM acquisitions of private land needed to meet important public resource objectives." The BLM does not mean to imply that private tax revenue gains and losses would balance in every lands action. The BLM believes this revised wording indicates the BLM will *attempt* to balance disposals and acquisitions so as to mitigate loss of county tax revenues. It is, of course possible that the public lands offered for sale or exchange will not be purchased and therefore not produce private property tax revenue to the counties. It is also possible that more public lands will be disposed of than acquired over the life of the RMP, which could result in greater net private property tax revenue to the counties.

Letter No. 6



BLM Response to Letter No. 6

6-1: We have noted that you support Alternative 2.

6-2: We recognize that Alternatives 4 and 5 may result in more rapid improvement of resource conditions. The BLM determined that two primary options existed to manage livestock grazing and improve resource conditions. A reduction in livestock AUMs was one option, as described in Alternatives 4 and 5. The other option was to use management "triggers" to move livestock when a level of riparian use, upland utilization, or other resource use criterion was reached. The BLM chose (in the Preferred Alternative) specific resource use criteria or management triggers (*e.g.*, stubble-heights, utilization levels) to achieve RMP goals, since experience has shown that reductions in livestock grazing are not always effective in avoiding overuse of the forage resource. The impact analysis indicates that acceptable rates and levels of resource improvement would occur with the resource use criteria prescribed under the Preferred Alternative, without the requirement for immediate, across-the-board reductions in livestock AUMs called for under Alternatives 4 and 5.

6-3: Your preference for Alternative 4 ACEC designations is noted. The BLM considered designation of both the Carlson Hills portion of the Donkey Hills ACEC and the Road Creek Watershed ACEC, but decided not to include these areas as ACECs in the Proposed RMP.

BLM Response to Letter No. 6 *continued*

6-4: Your suggestions are noted. However, the Federal Land Policy and Management Act of 1976, (FLPMA), Section 603(c) directed the Secretary of the Interior to report to the President on the wilderness suitability of lands managed by the Bureau of Land Management (BLM) by October 21, 1991. The Borah Peak, Goldburg, and Little Boulder Creek WSAs were studied under Section 202 of FLPMA, which authorized the wilderness study of roadless areas less than 5,000 acres in size, but contiguous to larger roadless areas.

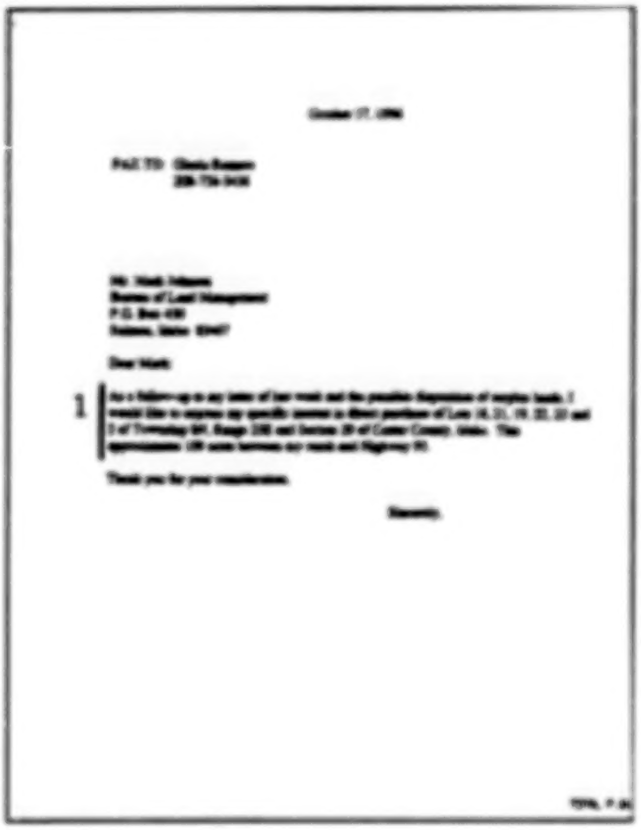
The BLM's wilderness recommendations have been forwarded by the President to Congress. Only Congress can designate a wilderness or release from interim management areas that were placed under wilderness study by Congressional authority. Until Congress acts on these recommendations, Section 603(c) further directs the BLM to continue to manage these WSAs in a manner that will not "impair the suitability of such areas for preservation as wilderness." Until designation or release, the BLM will manage these areas as directed in "Interim Management Policy And Guidelines For Land Under Wilderness Review" (BLM, 1995). If Congress acts and some of the WSAs in the Challis Resource Area are released from wilderness review, those public lands would be managed according to the Proposed RMP decisions listed under WSAs - Management if Released from Wilderness Review.

Letter No. 7

BLM Response to Letter No. 7

7:1: Please see the response to letter 8. (**Note:** In Letter 8 Mr. provides a more exact legal description of the public lands he would like to purchase.)

Letter No. 8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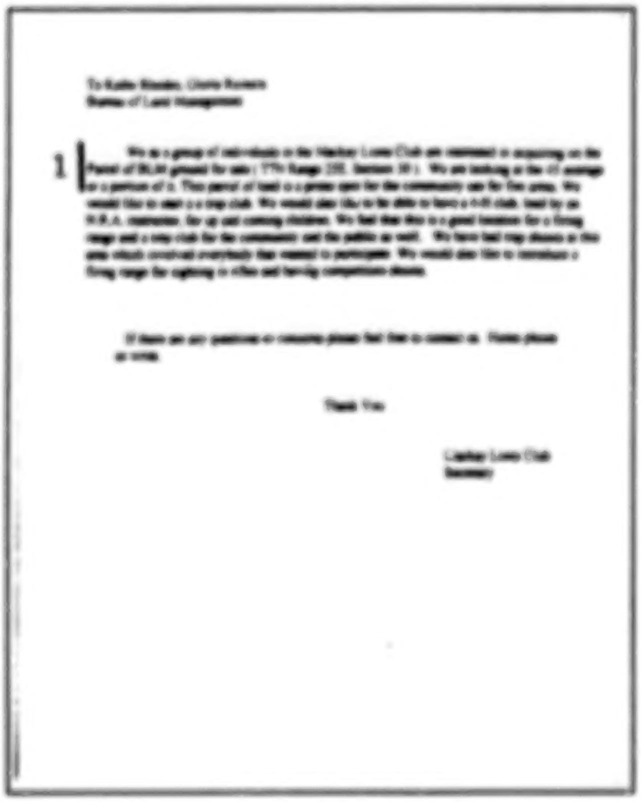
BLM Response to Letter No. 8

8-1: The Proposed RMP lists the public lands specified in your letter (T8N, R23E, Sec. 29, lots 16, 21, 19, 22, 25, and 2; approximately 109 acres) as tracts which can be considered for sale under the authority of FLPMA, Section 203(a)(1) (see PRMP, Attachment 17).

Letter No. 9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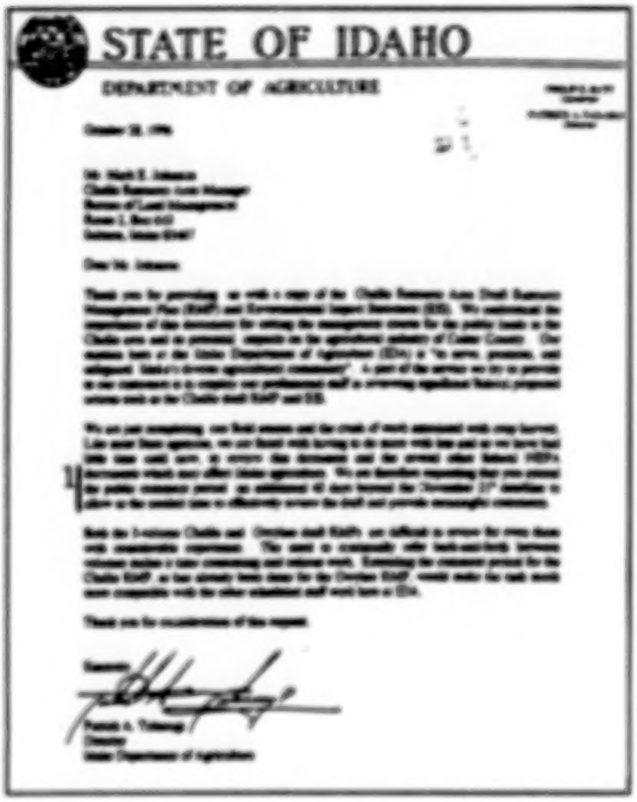
BLM Response to Letter No. 9

9-1: Approximately 50 acres in Lots 1 and 2 of the BLM lands you requested (*i.e.*, T7N, R25E, Section 30) have been included in the Proposed RMP for potential sale or exchange (see Attachment 17 and the adjustment areas identified on Map A: Adjustment/Management Areas).

Letter No. 10



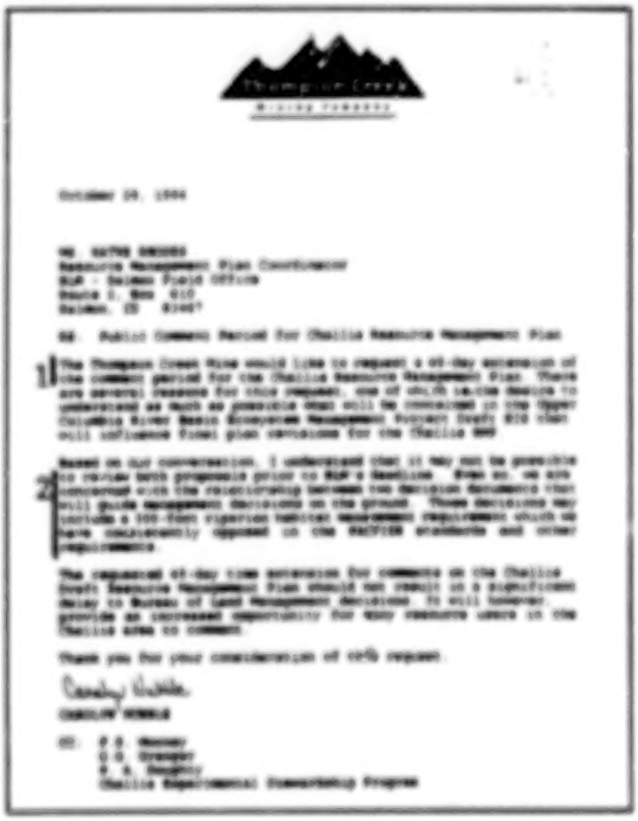
STATE OF IDAHO

DEPARTMENT OF AGRICULTURE

BLM Response to Letter No. 10

10-1: The BLM extended the comment period by 46 days (to January 6, 1997), to provide the public with additional time to review the Challis Draft RMP/EIS and provide comments. The BLM notified the public of the comment period extension through a notice in the *Federal Register*, announcements in the local media, and a letter sent to all persons/agencies who had received a copy of the Draft RMP/EIS.

Letter No. 11



BLM Response to Letter No. 11

11-1: Please see the response to Letter 10.

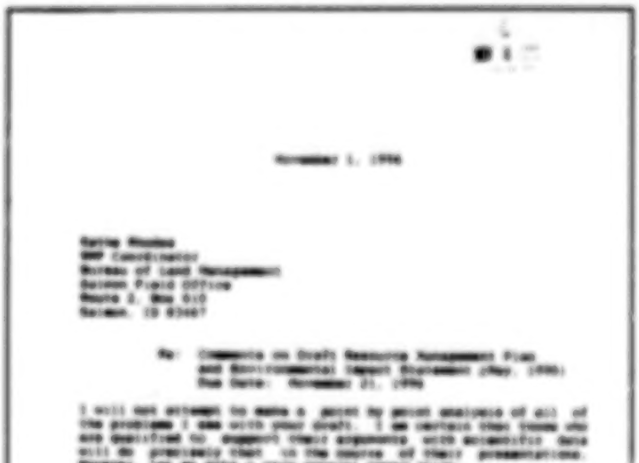
11-2: The proposed riparian habitat width for perennial fish-bearing streams or perennial portions of intermittent fish-bearing streams in the majority of the Challis Resource Area is the 100-year floodplain (non-forested rangeland systems) (see PRMP, Attachment 4). The 300-foot slope distance riparian habitat width you oppose would only apply in forested systems. The BLM estimates that less than 2% of riparian areas in the Challis RA are within timber types (conifers) and only about 5 to 10 percent of riparian areas are within forested areas (including conifer, aspen, and cottonwood types). The BLM recognizes that "PACFISH" is an interim management strategy. The various standards and management decisions which are described in the Draft RMP - Preferred Alternative and included in the Proposed RMP were selected because they are expected to achieve the desired resource improvement and maintenance goals for the Challis Resource Area, including [illegible] aquatic and riparian habitats.

Future management direction to replace "PACFISH" should be contained in the Upper Columbia River Basin Ecosystem Management Project (Project). Once the Record of Decision for the Project is signed, all BLM Resource Management Plans and Management Framework Plans will automatically

BLM Response to Letter No. 11 *continued*

be amended to be consistent with the Project. Standards contained in the Project which are different from, or more stringent than, standards contained in the Challis Proposed RMP will automatically be incorporated in the RMP. If the Challis Proposed RMP contains decisions which conflict with the Project, the RMP will be revised to be consistent. Decisions and standards in the RMP which are consistent with the Project could be implemented without revision, once the Record of Decision for the Challis approved RMP is signed.

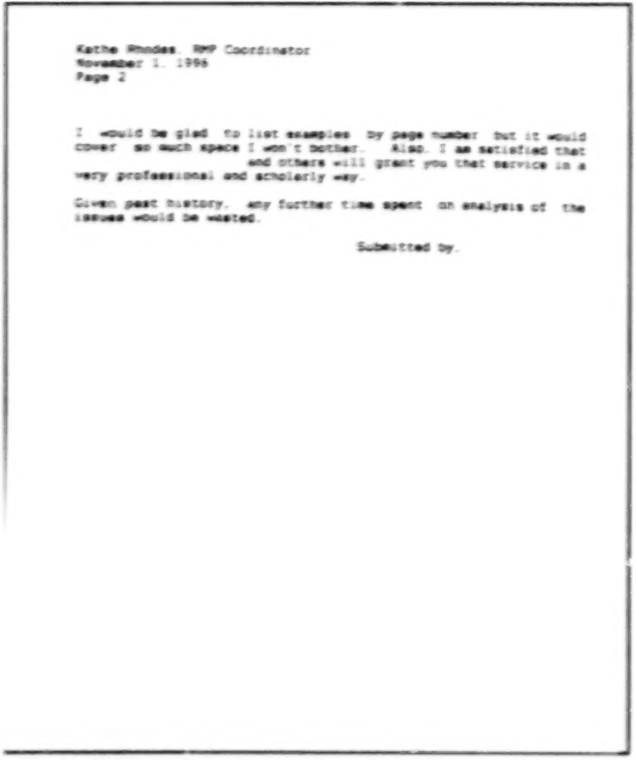
Letter No. 12



BLM Response to Letter No. 12

12-1: The 1991 San Felipe Allotment Analysis, Interpretation and Evaluation (AIE) is not a topic that was discussed or meant to be addressed in the Challis Draft RMP. We can only assume that you are using it as an example to emphasize your concern about the resource data that were used as a basis for development of the RMP, in addition to your reference to the 1977 Challis Rangeland Inventory.

The 1977 inventory was described in the Draft RMP-Affected Environment (Chapter 3) because planning guidance requires description of "the environment of the area(s) to be affected...by the alternatives under consideration" (36 CFR 1502.15). For some portions of the Challis Resource Area, the 1977 inventory is the only range condition information available. However, the 1977 Rangeland Inventory was not used as a primary source of information to develop the goals, objectives, and management actions proposed in the Challis RMP. RMP decisions are designed to improve the condition of areas that are currently in less than satisfactory condition, and maintain the condition of areas which are in satisfactory condition. Specific areas may or may not be the same areas identified in the 1977 inventory. To develop the goals, objectives, and management actions for the RMP alternatives, the RMP team reviewed the BLM's direction for managing resources on public lands and data from many sources, including [illegible] ecological site inventories, the 1977 inventory, nested



Kathe Rhodes, RMP Coordinator
November 1, 1996
Page 2

I would be glad to list examples by page number but it would cover so much space I won't bother. Also, I am satisfied that and others will grant you that service in a very professional and scholarly way.

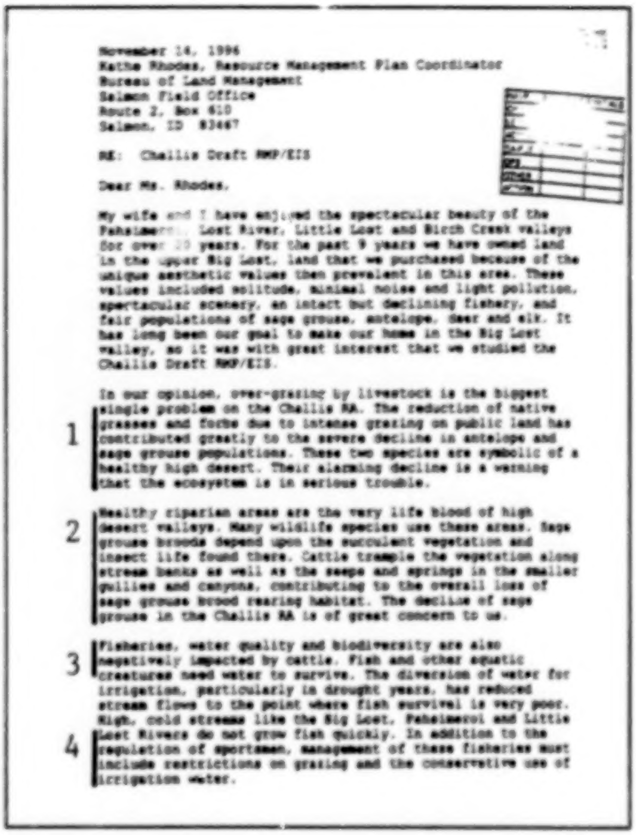
Given past history, any further time spent on analysis of the issues would be wasted.

Submitted by,

frequency trend studies, upland and riparian permanent photo point studies, and utilization pattern mapping studies.

12-2: The BLM regrets that you did not provide specifics to clarify your comment "If the statement is refuted by sound science -- don't say it!!!" Not knowing your meaning of "statements" or in which section of the Draft RMP these "statements" were made makes responding to this comment difficult. Very often "sound science" refutes "sound science" and it is the reader who must interpret how sound, meaningful and appropriate the science is. The Draft RMP cited over 250 references, approximately 80-85% of which were technical scientific journals. These references were used by the interdisciplinary team in the development of the RMP alternatives, description of the affected environment, and analysis of environmental consequences. The content of the Challis Draft RMP/EIS was also based on the professional judgment of resource specialists, extensive internal review, and external (State Office) BLM review. In sum, the BLM believes sound science was used throughout the RMP development process and, as a result, the product of that planning process (the Draft RMP/EIS) is itself "sound science."

Letter No. 13



November 14, 1996
Kathe Rhodes, Resource Management Plan Coordinator
Bureau of Land Management
Salmon Field Office
Route 2, Box 610
Salmon, ID 83467

RE: Challis Draft RMP/EIS

Dear Ms. Rhodes,

My wife and I have enjoyed the spectacular beauty of the Pahsimeroi, Lost River, Little Lost and Birch Creek valleys for over 20 years. For the past 9 years we have owned land in the upper Big Lost, land that we purchased because of the unique aesthetic values then prevalent in this area. These values included solitude, minimal noise and light pollution, spertacular scenery, an intact but declining fishery, and fair populations of sage grouse, antelope, deer and elk. It has long been our goal to make our home in the Big Lost valley, so it was with great interest that we studied the Challis Draft RMP/EIS.

In our opinion, over-grazing by livestock is the biggest 1 single problem on the Challis RA. The reduction of native grasses and forbs due to intense grazing on public land has contributed greatly to the severe decline in antelope and sage grouse populations. These two species are symbolic of a healthy high desert. Their alarming decline is a warning that the ecosystem is in serious trouble.

2 Healthy riparian areas are the very life blood of high desert valleys. Many wildlife species use these areas. Sage grouse broods depend upon the succulent vegetation and insect life found there. Cattle trample the vegetation along stream banks as well as the seeps and springs in the smaller gullies and canyons, contributing to the overall loss of sage grouse brood rearing habitat. The decline of sage grouse in the Challis RA is of great concern to us.

3 Fisheries, water quality and biodiversity are also negatively impacted by cattle. Fish and other aquatic creatures need water to survive. The diversion of water for irrigation, particularly in drought years, has reduced stream flows to the point where fish survival is very poor. High, cold streams like the Big Lost, Pahsimeroi and Little 4 Lost Rivers do not grow fish quickly. In addition to the regulation of sportsmen, management of these fisheries must include restrictions on grazing and the conservative use of irrigation water.

BLM Response to Letter No. 13

13-1: The BLM's analysis of existing information on antelope and sage grouse does not suggest that the ecosystem is in serious trouble or that current population levels are due to the effects of livestock grazing. Antelope and sage grouse populations fluctuate in response to many factors; hunting, predation, and weather may be some of the most significant factors affecting populations of these species.

Data on antelope and sage grouse populations have been gathered, and hunter surveys have been conducted, by the Idaho Department of Fish and Game (IDFG) in the Challis region, and statewide in Idaho, for more than 40 years. Anecdotal reports of population numbers go back to the 1920s. Discussions with IDFG personnel and review of anecdotal reports suggest that high sage grouse populations were historically present in the Challis RA during periods when livestock grazing more than likely exceeded the levels that exist today. Yoakum (1978) reported that antelope populations in the U.S. and Canada increased 1,500 percent between 1924 and 1976; control of hunting and transplanting were identified as the primary factors. This increase occurred in spite of livestock use levels that were likely much higher than levels of use that exist today.

13-2: The Proposed RMP (PRMP) makes a commitment to provide sufficient forage and habitat to support wildlife populations (see PRMP, Wildlife Habitat, Goals 1 and 2).

5 The projected economic impacts of the various alternatives seem acceptable to us. Alternative 5, which would restore rangeland health and natural values the fastest, (benefiting everyone in the long run) projects only a 2% economic decline for the Big Lost subregion, which is currently experiencing a land boom. Newcomers are not buying land at $2,000-$3,000 per acre in order to raise cattle. They are buying land because of the intrinsic natural beauty of the area. Simultaneously, ranchers are plowing up more and more private ground, thus rendering the remaining BLM desert lands even more valuable to wildlife.

The Pahsimeroi valley subregion, one of the most beautiful places in Idaho, might experience a 6-7% economic decline if Alternative 5 is implemented. This seems a small price to pay for living in such grand country, especially if the Challis RMP rapidly restores the public range to its former health. We (and many other taxpayers) would without hesitation take a 7% cut in our economic situation to enjoy living in such a place!

We believe it is unrealistic to assume that the extractive, commodity based philosophy of public land management will continue unabated into the next century. Grazing pressure will have to be reduced and fees increased as the public demands a greater say in the management of lands once used more or less exclusively by the livestock industry.

In conclusion, we think that a reduction in grazing and the protection of watersheds would most rapidly improve and sustain the condition of resources in the Challis RA. We urge you to adopt Alternative 5 in your RMP. 6

Respectfully yours,

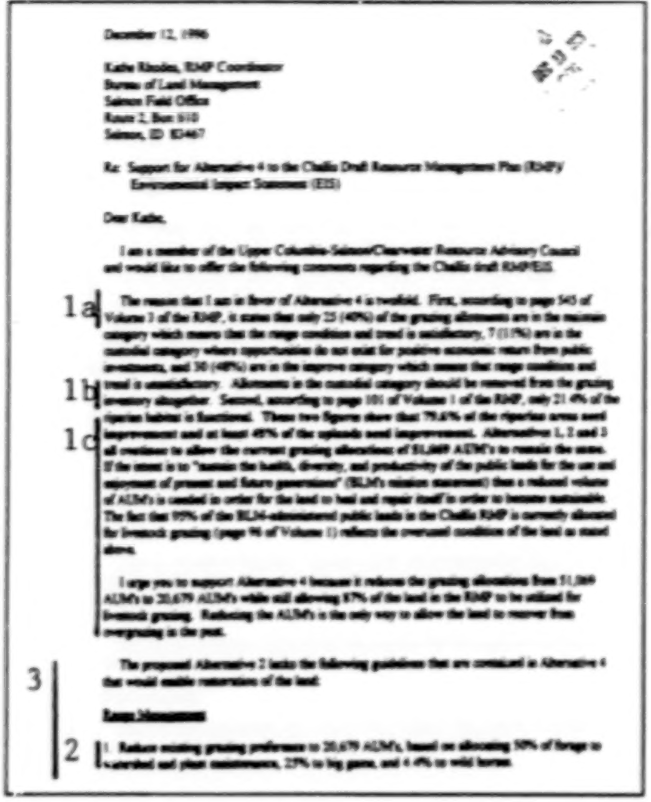
Livestock grazing management decisions (see PRMP, Livestock Grazing, Goals 1 and 2) are designed to improve upland range sites and riparian areas. Riparian use standards (PRMP, Riparian Areas, Goal 1, #4-7) would improve riparian wildlife habitats for sage grouse and other riparian-dependent wildlife species. Decisions listed under Floodplain/Wetland Areas, Goal 2, #1 and 2, and Attachment 8: Design Specifications - Rangeland Improvement, #4 would reduce livestock trampling and associated effects on springs and seeps.

13-3: Proposed RMP decisions on livestock grazing management are expected to improve water quality and fisheries. Biodiversity would be maintained. Livestock grazing impacts to biodiversity for each alternative are described in the DRMP on p. 191, #6; livestock grazing impacts to fisheries and aquatic habitats are listed on p. 213 (general discussion) and pp. 214-217, #2-6, 9, and 12; and livestock grazing impacts to water quality are shown on p. 291 (general discussion) and pp. 292-294, #2-11.

13-4: The BLM does not have the authority to impose fishing regulations; hunting and fishing regulations are developed and implemented by the State. Water rights and use of water for irrigation are also state-regulated. The BLM recognizes valid existing water rights, but may, under certain circumstances, have authority to specify the design and operation of diversion facilities (see PRMP, Floodplain/Wetland Areas, Goal 2, #4).

The BLM believes the decisions contained in the Proposed RMP will improve fisheries habitat and associated riparian areas. Riparian Areas, Goal 1 calls for restoring and maintaining riparian areas so that at least 90% of riparian areas along fish-bearing streams are in proper functioning condition by 2010. Management decisions listed under Riparian Areas, Goal 1 provide for (a) monitoring livestock impacts in riparian areas by measuring stubble height and bank disturbance, and (b) adjusting livestock use and allotment management plans to restore or maintain riparian areas and aquatic habitat in proper functioning condition.

13-5: Your preference of Alternative 5 is noted. The Proposed RMP incorporates portions of Alternative 5 to more rapidly improve and sustain resource conditions. Specifically, the PRMP limits off-highway vehicle use to existing roads, vehicle ways, and trails Resource Area-wide.



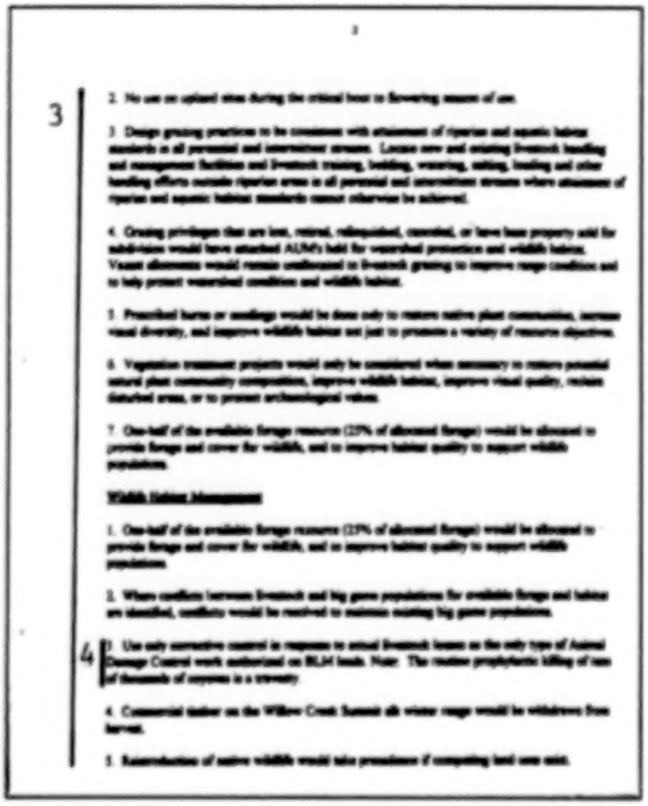
December 12, 1996

Katie Rhodes, RMP Coordinator
Bureau of Land Management
Salmon Field Office
Route 2, Box 610
Salmon, ID 83467

Re: Support for Alternative 4 to the Challis Draft Resource Management Plan (RMP)/ Environmental Impact Statement (EIS)

Dear Katie,

Letter No. 14 *continued*



14-1: (a) Your preference for Alternative 4 is noted.

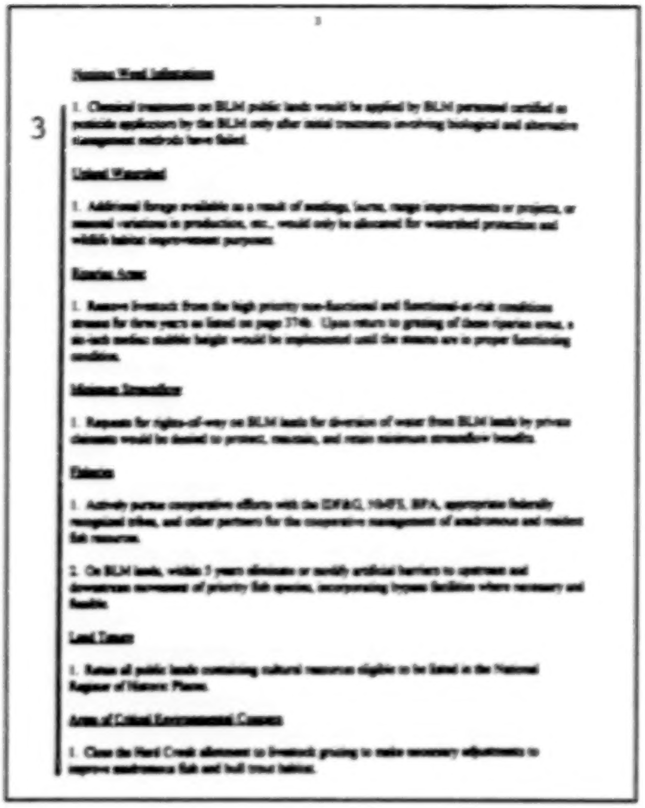
(b) Allotment categorization is one tool used to prioritize allotments for future management. Please note that the criteria for allotment categorization, as stated in the Glossary, include much more than just allotment condition. Placing an allotment into the "improve" category may be the result of potential opportunities, rather than an indication of major problems. Removing "custodial" allotments from the "grazing inventory" (*i.e.*, removing them from livestock grazing) would serve no useful purpose. Please note that areas within the Challis Resource Area that have been determined to be unsuitable for livestock grazing have been closed to livestock grazing (see PRMP, Livestock Grazing, Goal 1, #3).

(c) As the BLM debated possible livestock grazing management options for improving rangeland conditions (including riparian and upland conditions), two potential alternatives emerged. One method for improving rangeland conditions (proposed in Alternatives 4 and 5) was through reductions in livestock use (either reducing the numbers of livestock on an allotment, or reducing the amount of time that the livestock spend on the allotment). The other option (Proposed in Alternatives 2 and 3) was to define management "triggers" to move livestock when a level of plant utilization, bank shearing, or other criteria was reached. The BLM chose (in the Proposed RMP) management triggers to achieve RMP goals since experience has shown that reductions in livestock grazing, by themselves, are not effective in reducing livestock use in riparian zones. Livestock tend to concentrate in riparian zones regardless of the number of livestock that are present in a pasture. Even a few livestock, if left in a riparian zone for any length of time, can result in stubble heights below those necessary to assure proper functioning riparian condition. Across-the-board reductions of AUMs are not considered necessary for many allotments and would not be warranted based on existing knowledge.

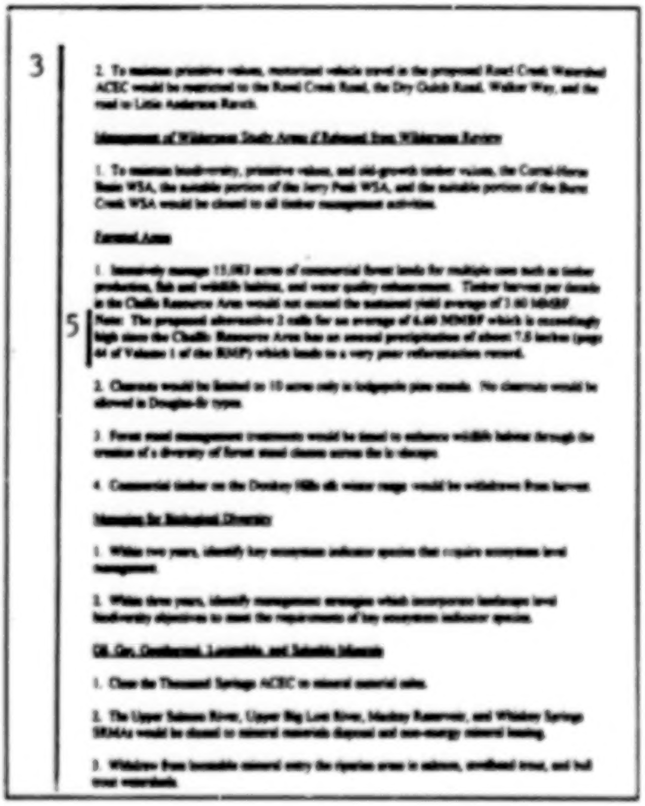
14-2: A reduced number of AUMs is not the only way to achieve healthy, diverse, and productive public lands. The BLM feels that the combination of management actions contained in the Proposed RMP would have more beneficial impacts on the land than imposing large "up-front" reductions in livestock grazing preference that may or may not achieve the desired result. These Proposed RMP actions (*e.g.*, stubble height and bank shearing criteria for riparian areas, and cover requirements for uplands) will provide the BLM with the tools for effective livestock grazing management, and ensure that high value resources are protected.

14-3: Your suggestions for incorporating portions of Alternative 4 into the Preferred Alternative were considered. The Proposed RMP adopts the intent of the Alternative 4

Letter No. 14 *continued*



Letter No. 14 *continued*



BLM Response to Letter No. 14 *continued*

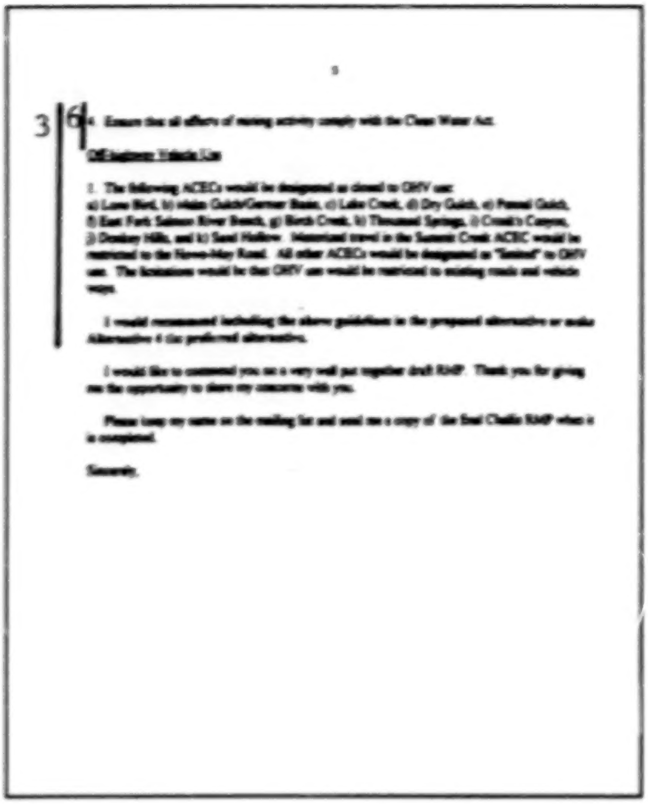
decisions listed in your letter as Range Management #3 and ACECs #2.

14-4: Animal Damage Control (ADC) actions on BLM lands in the Challis RA were recently analyzed in the *Environmental Assessment: Predator Damage Management in Northern and Central Idaho* (USDA-APHIS-ADC September 1996). The Proposed RMP would continue the ADC program as outlined in this EA. Because livestock losses are documented annually from coyote predation, and wolves have recently been reintroduced into the Central Idaho Recovery Area, the BLM has determined that the environmentally responsible ADC program conducted by the Animal and Plant Health Inspection Service should be continued on public lands in the Challis RA.

14-5: The sustained yield figure for Alternative 2 (6.60 MMBF per decade) is based on the site productivity of the acres of suitable commercial timberlands which are available for harvest (*i.e.*, not withdrawn) under this alternative. This harvest level is considered sustainable and is the *maximum* allowed under this alternative. The low annual precipitation figure that you cite applies to lower elevation, non-timbered sites in the Resource Area. Higher elevation, cooler, timbered sites within the Resource Area receive greater precipitation.

14-6: Draft RMP decisions pertaining to water quality are the same for Alternatives 2 and 4 (see pp. 380a/b).

Letter No. 14 *continued*



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36 4. Ensure that all effects of mining activity comply with the Clean Water Act.

Off-highway Vehicle Use

1. The following ACECs would be designated as closed to OHV use:
a) Lone Bird, b) Malm Gulch/Germer Basin, c) Lake Creek, d) Dry Gulch, e) Pennal Gulch, f) East Fork Salmon River Bench, g) Birch Creek, h) Thousand Springs, i) Crooks Canyon, j) Donkey Hills, and k) Sand Hollow. Motorized travel in the Summit Creek ACEC would be restricted to the [illegible] Road. All other ACECs would be designated as "limited" to OHV use. The limitations would be that OHV use would be restricted to existing roads and vehicle ways.

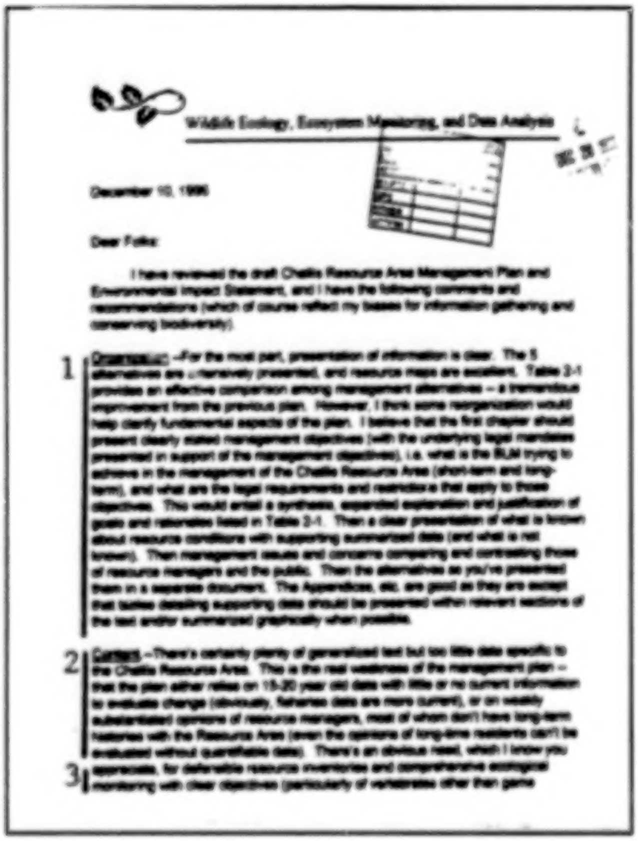
I would recommend including the above guidelines in the proposed alternative or make Alternative 4 the preferred alternative.

I would like to commend you on a very well put together draft RMP. Thank you for giving me the opportunity to share my concerns with you.

Please keep my name on the mailing list and send me a copy of the final Challis RMP when it is completed.

Sincerely,

Letter No. 15



Wildlife Ecology, Ecosystem Monitoring, and Data Analysis

December 10, 1996

Dear Folks:

I have reviewed the draft Challis Resource Area Management Plan and Environmental Impact Statement, and I have the following comments and recommendations (which of course reflect my biases for information gathering and conserving biodiversity).

1 Organization --For the most part, presentation of information is clear. The 5 alternatives are extensively presented, and resource maps are excellent. Table 2-1 provides an effective comparison among management alternatives -- a tremendous improvement from the previous plan. However, I think some reorganization would help clarify fundamental aspects of the plan. I believe that the first chapter should present clearly stated management objectives (with the underlying legal mandates presented in support of the management objectives), i.e. what is the BLM trying to achieve in the management of the Challis Resource Area (short-term and long-term), and what are the legal requirements and restrictions that apply to those objectives. This would entail a synthesis, expanded explanation and justification of goals and rationales listed in Table 2-1. Then a clear presentation of what is known about resource conditions with supporting summarized data (and what is not known). Then management issues and concerns comparing and contrasting those of resource managers and the public. Then the alternatives as you've presented them in a separate document. The Appendices, etc. are good as they are except that tables detailing supporting data should be presented within relevant sections of the text and/or summarized graphically when possible.

2 Content --There's certainly plenty of generalized text but too little data specific to the Challis Resource Area. This is the real weakness of the management plan -- that the plan either relies on 15-20 year old data with little or no current information to evaluate change (obviously, fisheries data are more current), or on weakly substantiated opinions of resource managers, most of whom don't have long-term histories with the Resource Area (even the opinions of long-time residents can't be evaluated without quantifiable data). There's an obvious need, which I know you

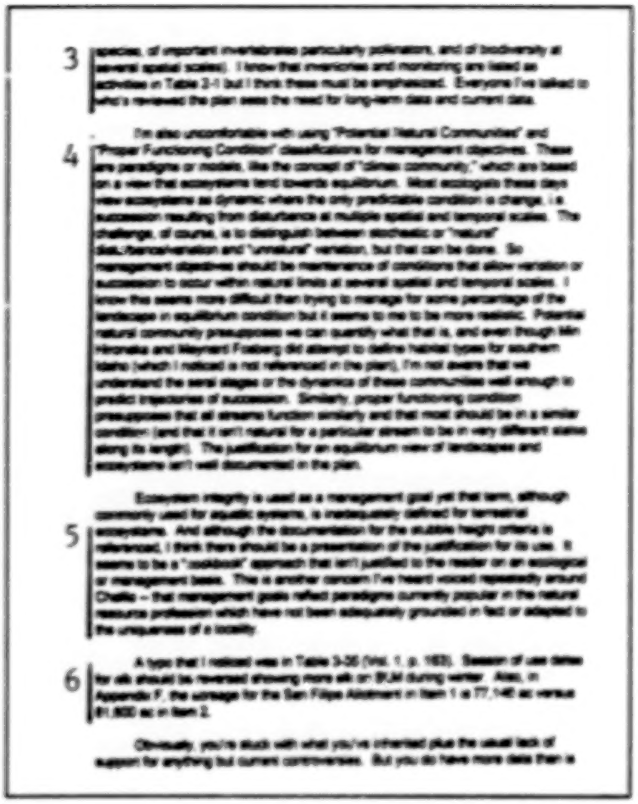
3 appreciate, for defensible resource inventories and comprehensive ecological monitoring with clear objectives (particularly of vertebrates other than game

BLM Response to Letter No. 15

15-1: Your request to reorganize the document is well taken. Using the format you suggest would make a document that clearly and rationally presents goals, where we are now, and possible ways (alternatives) of achieving the goals. At this point in the RMP process, however, the Draft RMP/EIS has already been issued and will not be re-published. The Proposed RMP should be a much easier document for the public to use because it presents only the proposed plan, without alternatives. A major reorganization of the RMP/EIS format at this point might cause confusion and frustration on the reader's part.

15-2: During development of the Challis DRMP, which spanned a five year period, several allotments within the Challis Planning Unit of the Challis Resource Area had upland range inventories completed on them. These upland range inventories were conducted to address resource concerns within those allotments. Once completed, it takes considerable time to analyze the data and reduce it to a form where it can be summarized and presented. As of the time of the release of the Draft RMP, the table presenting a summary of upland range condition by allotment (*Appendix F: Livestock Grazing, Item 2: Range Condition Summary by Allotment*) could only be updated to reflect the results of the 1994 range inventory affecting the Mountain Springs (San Felipe), Warm Springs, and Thousand Springs allotments. Since that time, the information from the

Letter No. 15 *continued*



3 species, of important invertebrates particularly pollinators, and of biodiversity at several spatial scales). I know that inventories and monitoring are listed as activities in Table 2-1 but I think these must be emphasized. Everyone I've talked to who's reviewed the plan sees the need for long-term data and current data.

I'm also uncomfortable with using "Potential Natural Communities" and

4 "Proper Functioning Condition" classifications for management objectives. These are paradigms or models, like the concept of "climax community," which are based on a view that ecosystems tend towards equilibrium. Most ecologists these days view ecosystems as dynamic where the only predictable condition is change, i.e. succession resulting from disturbance at multiple spatial and temporal scales. The challenge, of course, is to distinguish between stochastic or "natural" disturbance/variation and "unnatural" variation, but that can be done. So management objectives should be maintenance of conditions that allow variation or succession to occur within natural limits at several spatial and temporal scales. I know this seems more difficult than trying to manage for some percentage of the landscape in equilibrium condition but it seems to me to be more realistic. Potential natural community presupposes we can quantify what that is, and even though Min Hironaka and Maynard Fosberg did attempt to define habitat types for southern Idaho (which I noticed is not referenced in the plan), I'm not aware that we understand the seral stages or the dynamics of these communities well enough to predict trajectories of succession. Similarly, proper functioning condition presupposes that all streams function similarly and that most should be in a similar condition (and that it isn't natural for a particular stream to be in very different states along its length). The justification for an equilibrium view of landscapes and ecosystems isn't well documented in the plan.

Ecosystem integrity is used as a management goal yet that term, although commonly used for aquatic systems, is inadequately defined for terrestrial

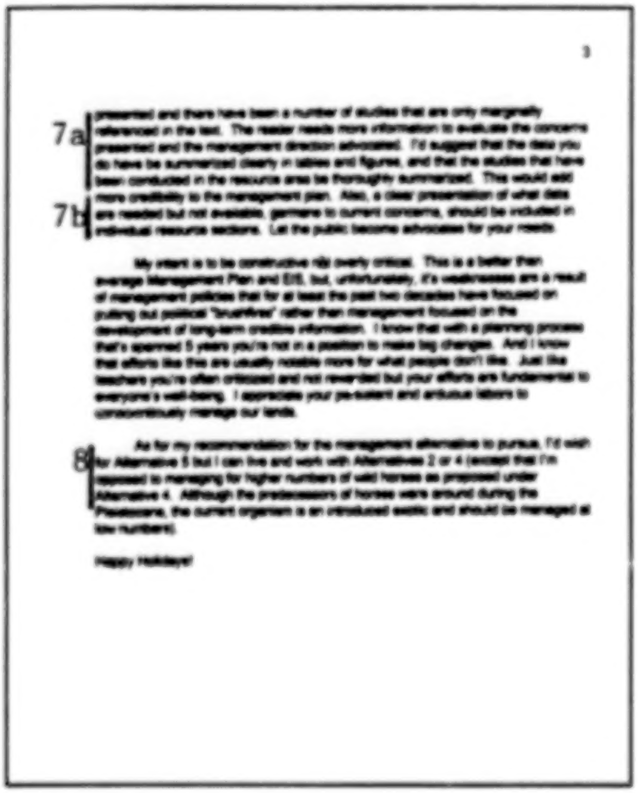
5 ecosystems. And although the documentation for the stubble height criteria is referenced, I think there should be a presentation of the justification for its use. It seems to be a "cookbook" approach that isn't justified to the reader on an ecological or management basis. This is another concern I've heard voiced repeatedly around Challis -- that management goals reflect paradigms currently popular in the natural resource profession which have not been adequately grounded in fact or adapted to the uniqueness of a locality.

A typo that I noticed was in Table 3-20 (Vol. 1, p. 183). Season of use dates

6 for elk should be reversed showing more elk on BLM during winter. Also, in Appendix F, the acreage for the San Felipe Allotment in Item 1 is 77,148 ac versus 81,800 ac in Item 2.

Obviously, you're stuck with what you've inherited plus the usual lack of support for anything but current controversies. But you do have more data than is

Letter No. 15 *continued*



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7a presented and there have been a number of studies that are only marginally referenced in the text. The reader needs more information to evaluate the concerns presented and the management direction advocated. I'd suggest that the data you do have be summarized clearly in tables and figures, and that the studies that have been conducted in the resource area be thoroughly summarized. This would add

7b more credibility to the management plan. Also, a clear presentation of what data are needed but not available, germane to current concerns, should be included in individual resource sections. Let the public become advocates for your needs.

My intent is to be constructive not overly critical. This is a better than average Management Plan and EIS, but, unfortunately, it's weaknesses are a result of management policies that for at least the past two decades have focused on putting out political "brushfires" rather than management focused on the development of long-term credible information. I know that with a planning process that's spanned 5 years you're not in a position to make big changes. And I know that efforts like this are usually notable more for what people don't like. Just like teachers you're often criticized and not rewarded but your efforts are fundamental to everyone's well-being. I appreciate your persistent and arduous labors to conscientiously manage our lands.

8 As for my recommendation for the management alternative to pursue, I'd wish for Alternative 5 but I can live and work with Alternatives 2 or 4 (except that I'm opposed to managing for higher numbers of wild horses as proposed under Alternative 4. Although the predecessors of horses were around during the Pleistocene, the current organism is an introduced exotic and should be managed at low numbers).

Happy Holidays!

BLM Response to Letter No. 15 *continued*

1995 upland range inventory of the Herd Creek and Warm Springs allotments has become available. Analysis of these data shows a generally favorable trend on the upland portions of those allotments. This favorable trend is mostly the result of implementing intensive grazing systems and a number of new range improvement projects.

The 1994 and 1995 updated inventories covered a total of about 163,275 acres, or about 20.6% of the Challis Resource Area acreage. These data suggest that similar improvement may have occurred on other allotments **within the Challis Planning Unit** because similar actions (intensive grazing systems, range improvement developments, etc.) were also implemented on those allotments. This general trend of improving upland range conditions may not have taken place on other allotments within the Resource Area (allotments in the Ellis-Pahsimeroi and Mackay Planning Units), because similar grazing systems and range improvements were not implemented on all of them. New inventories have also not been completed on these allotments, and the current status of their upland range condition is unknown.

When the RMP process was started, the BLM was aware that most of the existing vegetative inventories were dated, and that the quality of the data was questioned by some people. Please see the Draft RMP discussion on page 100, which describes some of the factors influencing the validity of existing vegetative inventories. For these reasons, the BLM relied heavily on the professional judgement of the Challis Resource Area staff (some of whom have 15 years or more experience within the Resource Area) during development of the resource goals and objectives outlined in the PRMP.

The Proposed RMP/Final EIS incorporates up-to-date information specific to the Challis Resource Area (for example, riparian habitat condition and trend, water quality, special status species listings, fish species distribution).

15-3: We agree that there is a need for updated inventories and for this reason the PRMP proposes *many* actions to gather new information and update current information (please see the response to 15-7(b).) The very fact that these inventory and monitoring decisions are listed in the PRMP gives them "emphasis."

15-4: We agree that there is currently an on-going debate over the proper model to use in describing vegetative succession. Unfortunately, there is little agreement or consensus among range scientists on one specific model to replace the old straight-line model proposed by Clements (1916) and others. In the absence of universal acceptance of a BLM alternative model of succession, we opted to go with the existing succession-retrogression model described by Dyksterhuis (1949) that has been institutionalized by

296

BLM Response to Letter No. 15 *continued*

BLM, Soil Conservation Service, and Forest Service policy for many years. Throughout the RMP, however, are management decisions that provide the BLM with flexibility to address resource management issues related to vegetative succession. The BLM currently uses the concept of Potential Natural Community as used in the Soil Conservation Service (now Natural Resources Conservation Service) site guides. In our case, they are based on the local Custer-Lemhi soil survey.

15-5: The Challis Resource Area staff has had a great deal of practical, on-the-ground experience in the use of stubble height criteria as part of a package of knowledgeable and reasonable actions designed to improve riparian habitat. Riparian habitat improvement has been measured on numerous streams within the East Fork Salmon River drainage since initial baseline studies were established in 1993. Specific streams where stubble heights have been used include Road Creek, Bear Creek, Mosquito Creek, and Horse Basin Creek within the Mountain Springs (San Felipe) Allotment, and Herd Creek and Lake Creek within the Herd Creek Allotment. Quantitative studies indicate an upward trend towards expanding hydric plant communities, improved woody age structure and increased streambank stability. Improvements in these parameters directly relate to obtaining properly functioning riparian, aquatic and hydrologic conditions. This improvement can be attributed to applying a package of knowledgeable and reasonable practices which include changes in grazing management regarding season of use (timing) and days of use (intensity), and the application of stubble height and woody use standards. These management actions follow procedures similar to those described by Hall and Bryant, 1995 and Clary and Webster, 1989 and parallel those management decisions described in the PRMP under Riparian Areas, Goal 1, #4-6.

The applied knowledgeable and reasonable practices stated above are not the only recognized means to obtain improved riparian conditions. Other tools and applications integrated into riparian management which have also contributed to the improvement of riparian communities include periodic season-long rest, temporary fencing, and intensive herding. The Proposed RMP allows for other combinations of knowledgeable and reasonable practices, as long as they meet the criteria shown under Riparian Areas, Goal 1, #4.

15-6: Table 3-35 has been corrected in the PRMP/FEIS.

Appendix F, Item 2 acreage data for the Mountain Springs (San Felipe), Warm Springs, and Thousand Springs allotments were updated based on the 1994 range inventory of those allotments (see Draft RMP/EIS, p. 547, footnote 3). The PRMP also updates these acreage data in Appendix F, Item 1, so the two appendix items are consistent.

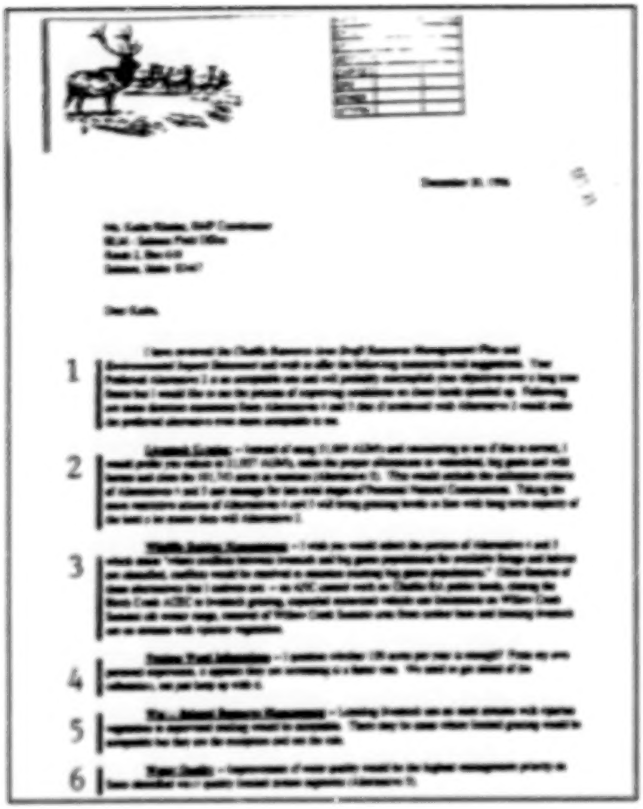
15-7: (a) The Affected Environment section of the Proposed RMP updates the Draft RMP information pertaining to water quality, rangeland condition and trend, fisheries habitat, and riparian function by summarizing additional data available since the Draft RMP/EIS was begun (approximately 1991).

The BLM considered your suggestion to provide a thorough summarization of all the upland, riparian and aquatic monitoring data; however such a summary would take volumes to present and, since monitoring is an ongoing endeavor, the summary would never be complete. The BLM feels the Affected Environment descriptions and Appendices provide a reasonable summary of resource information. A new appendix in the Proposed RMP, Appendix L, Item 1, lists the majority of studies, inventories, surveys, and other research activities pertinent to the Challis Resource Area which can be reviewed upon request at the Salmon BLM Office.

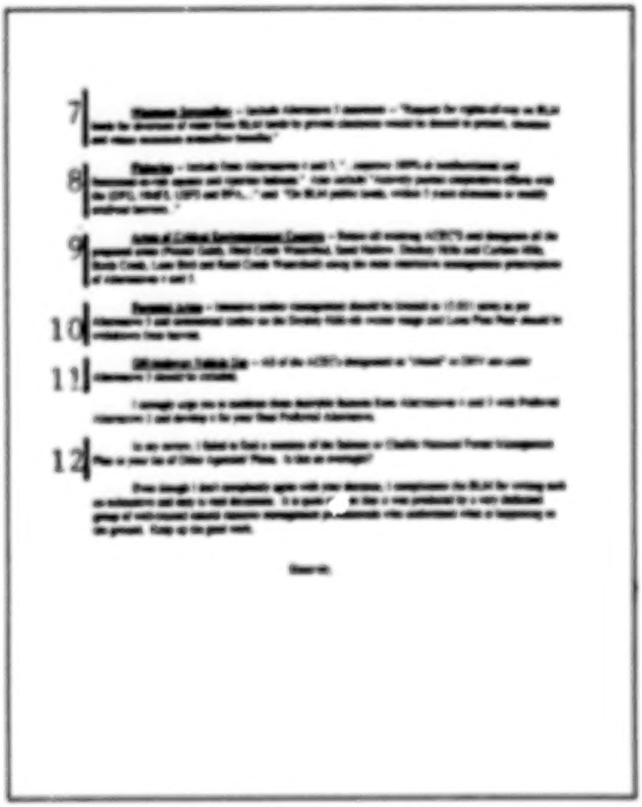
(b) To address information shortcomings, the PRMP carries forward numerous decisions from the Draft RMP Alternative 2 which emphasize gathering new information and updating current information. For example, please see the following PRMP decisions: Biological Diversity, Goal 1, #3; Cultural Resources, Goal 1, #1, 10, 13 and Goal 3, #2; Fisheries, Goal 1, #3, 12, 16; Forest Resources, Goal 1, #2; Hazardous Materials Management, Goal 1, #4; Paleontological Resources, Goal 1, #1; Recreation Opportunities and Visitor Use, Goal 3, #2 and Goal 5, #1; Riparian Areas, Goal 1, #9 and Goal 2, #1-3; Special Status Species, Goal 1, #1-5; Transportation, Goal 1, #8; Water Quality, Goal 1, #1; and Wildlife Habitat, Goal 2, #1.

15-8: Your preference for Alternative 5 is noted, as well as your willingness to live and work with Alternatives 2 or 4. Please note that wild horse numbers in the PRMP reflect Alternative 2 that you were in favor of, rather than the numbers in Alternative 4.

Letter No. 16



Letter No. 16 *continued*



BLM Response to Letter No. 16

16-1: We acknowledge your preference for incorporating some aspects of Alternatives 4 and 5 into Alternative 2.

16-2: Your preferences are noted. Please see response 6-2.

16-3: (a) Your preference is noted.

(b) Your preference is noted. Please see response 14-4.

(c) Your preference is noted.

(d) The Proposed RMP maintains a seasonal limitation on motorized vehicle use on the Willow Creek Summit elk winter range, but does not apply to the expanded acreage described in Alternatives 4 and 5. OHV use on the 9,200-acre area identified in Alternatives 4 and 5 would be limited to existing roads and vehicle ways, yearlong. The expansion area identified in Alternatives 4 and 5 encompasses the peripheral winter range around the core of the Willow Creek Summit winter range. The BLM believes that the motorized vehicle use limitations outlined above would be adequate to protect the wintering elk herd using this area.

(e) The PRMP would permit harvest of commercial timber on the Willow Creek Summit elk winter ranges only if harvest can be managed to protect elk habitat quality (see PRMP, Forest Resources, Goal 1, #19).

(f) Your preference is noted.

16-4: As of December 1997, ninety-six (96) weed-infested sites comprising approximately 180 acres had been located and inventoried in the Challis Resource Area. Planned inventories in future years may expand inventory of known sites. The planned treatment of 150 acres per year is expected to adequately control further expansion of weed populations on public lands in the RA. The PRMP does not preclude treatment of more acres, if necessary.

16-5: Your preference is noted.

16-6: Your preference is noted. The PRMP identifies water quality improvement as a priority throughout the Resource Area (see PRMP, Water Quality, Goal 1).

16-7: This decision has been rewritten to more accurately reflect BLM policy on the development and use of water resources on public lands. The Proposed RMP revises the decisions listed under Management Concern: Minimum Streamflow, Goal 1, #1, 2, and 3 (DRMP, p. 381a) and Management Concern: Floodplain/Wetland Areas, Goal 2, #3 and 4 (DRMP, p. 379a) so they are consistent with current water rights law and policy. To address fisheries and other resource concerns, the Proposed RMP retains language

BLM Response to Letter No. 16 *continued*

regarding acquisition of minimum streamflows and stipulations on rights-of-way for irrigation diversions.

16-8: Your preferences are noted.

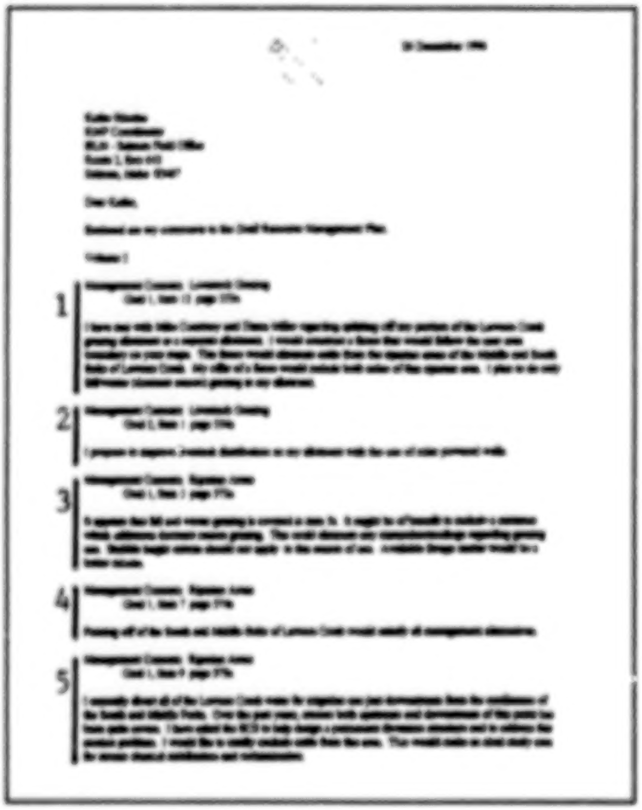
16-9: Your preferences are noted.

16-10: Your preferences are noted.

16-11: Your preference is noted.

16-12: The *Land and Resource Management Plan for the Salmon National Forest* (1988) and the *Land and Resource Management Plan for the Challis National Forest* (1989) were used during preparation of the Challis Draft RMP. Reference to these documents has been listed in the "Corrections to the Draft RMP/EIS" section of the PRMP/FEIS.

Letter No. 17



BLM Response to Letter No. 17

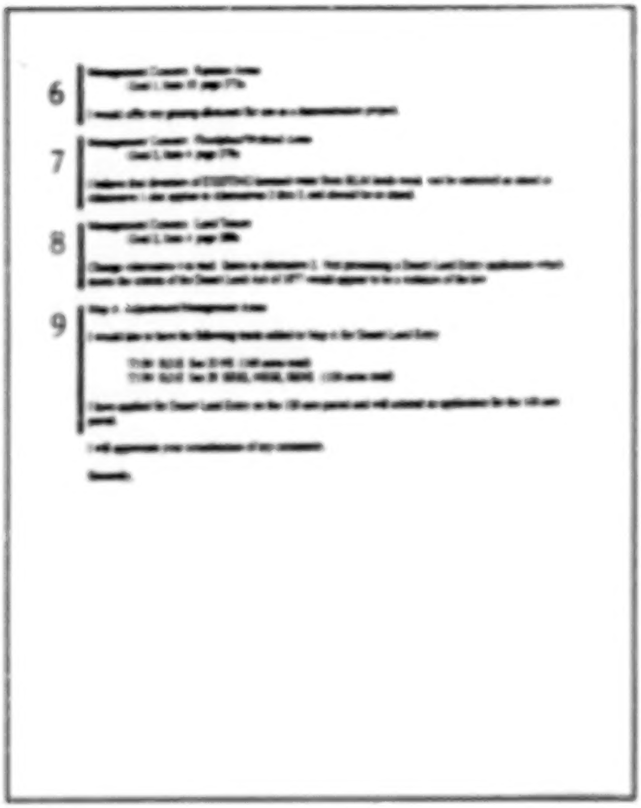
17-1: The proposal you suggest would be allowed under the PRMP (see Livestock Grazing, Goal 1, #12).

17-2: Construction of new range improvement projects would be allowed in the PRMP (see Livestock Grazing, Goal 2). Any site-specific impacts from your proposal would have to be analyzed in an environmental assessment.

17-3: Your suggestions are noted. Riparian area stubble height criteria (see PRMP, Riparian Areas, Goal 1, #5) would apply to dormant season grazing. A four-to-six inch stubble height is necessary in the spring to allow riparian zones to properly trap sediments that can be used to build streambanks, raise watertables, and promote the growth of riparian-dependent vegetation. Note that the PRMP has procedures to allow other knowledgeable and reasonable practices in lieu of stubble height (see Riparian Areas, Goal 1, #4).

17-4: Fencing off the riparian zones would likely promote riparian recovery at a more rapid rate than other management options involving controlled grazing.

17-5: Your proposal to exclude cattle from the erosion area would be compatible with the Proposed RMP. Decisions about how to best manage this area would be made by a



BLM interdisciplinary team, with public input, and with final approval by the BLM authorized officer.

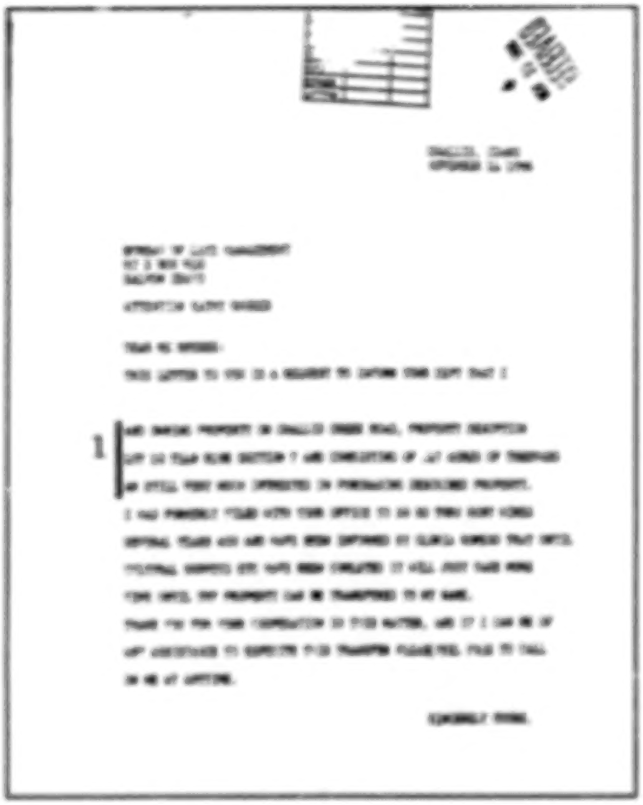
17-6 Your proposal to offer your allotment for a demonstration project on a perennial watershed would be compatible with the Proposed RMP, and is appreciated.

17-7: Please see response 16-7.

17-8: Language from Alternative 4 of the Draft RMP decision you are concerned about (Management Concern: Land Tenure, Goal 2, #4, Alternative 4) was not carried forth into the Proposed RMP. However, please note that land use plans, such as this RMP, *can* be used to constrain applications for DLEs. The Challis Resource Area's existing land use plans (Challis Management Framework Plan (MFP), Ellis-Pahsimeroi MFP, Mackay MFP) currently contain constraints on DLE applications. DLE applications received prior to signing of the Record of Decision for the Challis RMP/EIS will be processed consistent with the land use plan provisions in place at the time the application was received.

17-9: The DLE application for the 120-acre tract noted in your comment letter was rejected by the Challis Resource Area for Desert Land Entry (DLE) on July 30, 1997, because the soils fail to meet *existing* Land Use Plan (Ellis-Pahsimeroi MFP) criteria for DLEs, and the proposal failed to meet the economic farm requirements of 43 CFR 2520.0-8(d). The 160-acre tract also fails to meet these soils criteria, so it would be rejected under the existing criteria of the MFP, as well as those criteria that are carried forth into the PRMP (see PRMP, Land Tenure, Goal 2, #4). Because these tracts do not meet Desert Land Entry criteria or other BLM criteria for disposal, they have not been added to the general Adjustment Areas on Map A.

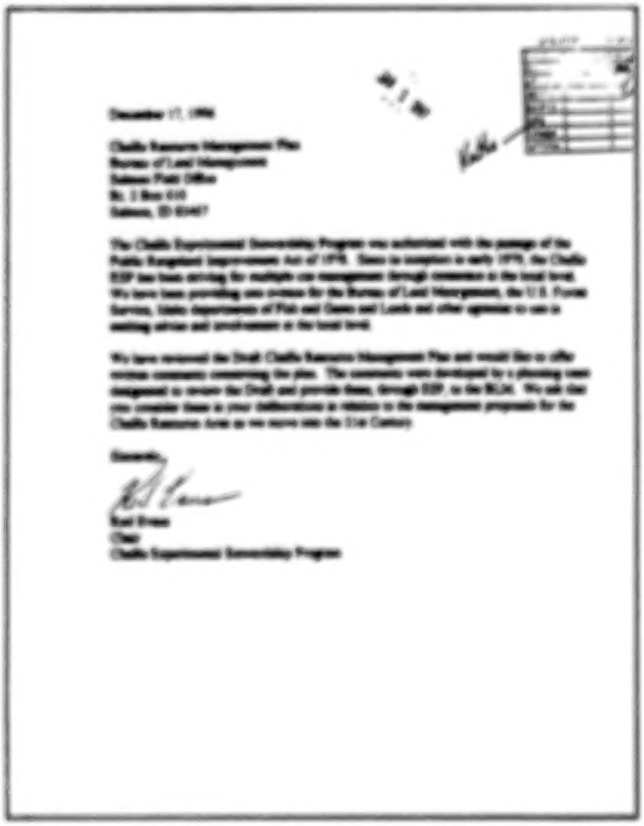
Letter No. 19



BLM Response to Letter No. 19

19-1: The BLM public lands you are interested in acquiring (T14N, R19E, Section 7, Lot 10) were proposed for consideration as a sale tract under Alternatives 2 and 3 of the Draft RMP (see Attachment 17, p. 499). This sale tract has been listed in the Proposed RMP for potential disposal (see PRMP, Attachment 17).

Letter No. 20

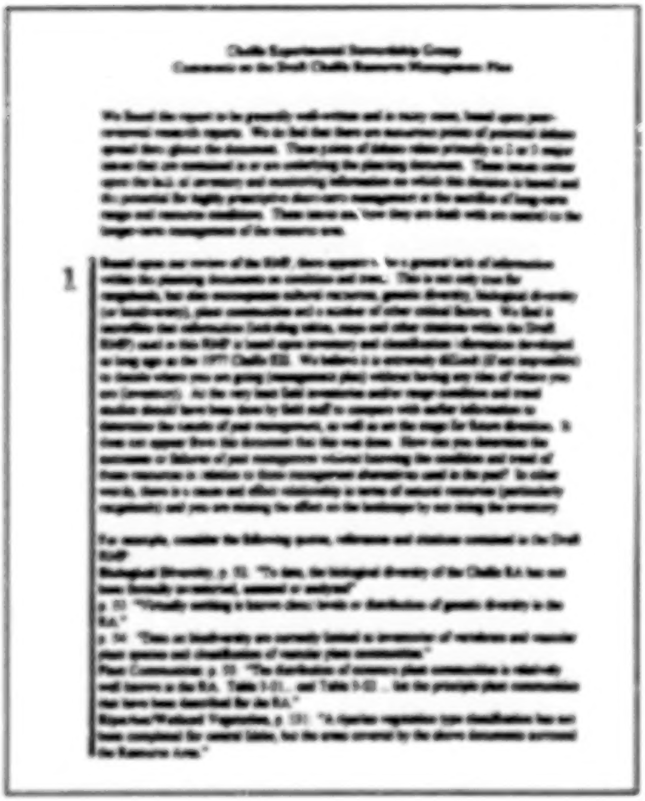


BLM Response to Letter No. 20

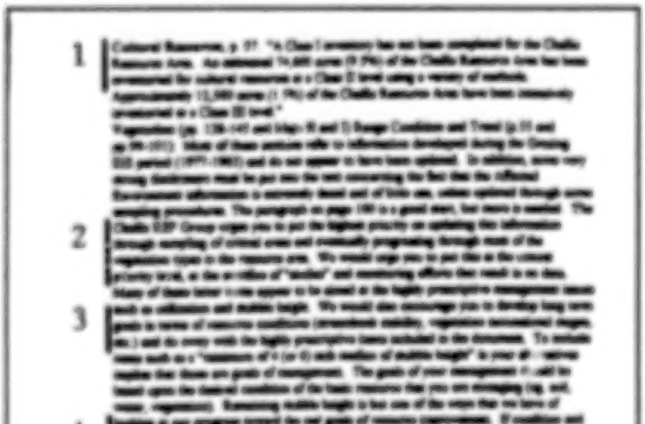
20-1: (a) Please see response 15-2, paragraphs 1 and 2; response 15-7(a), paragraph 1; and response 15-7(b). Because some of the inventories contained in the Proposed RMP were not specified in prior planning documents (Alternative 1), the management decisions and actions proposed in the Challis PRMP are required to even **begin** the process of gathering this information. Other inventory actions are carried forward from the Management Framework Plans, with modification, because they are considered to be valid, but have not been completed to date.

(b) Monitoring of resource conditions and trends in relation to current management indicates that "where we (currently) are" is not the direction "we want to go." The BLM's analysis of the effectiveness of past rangeland management actions indicated that past management has produced little change in resource conditions (see DRMP, "Rangeland Monitoring," p. 101). The Draft RMP therefore proposed four alternative management schemes for achieving the stated goals. The goal statements described in Volume 2 of the DRMP (*i.e.*, "where we want to go") were not developed from an analysis of current rangeland conditions. Rather, referenced goal statements were derived from the sources indicated in the rationale statement which accompanies each

Letter No. 20 *continued*



Letter No. 20 *continued*



BLM Response to Letter No. 20 *continued*

goal, including national initiatives, Bureau policies, and regulations.

20-2: The BLM will continue to monitor upland plant communities using nested frequency and permanent photo plots according to Idaho's Minimum Monitoring Standards (see PRMP, Livestock Grazing, Goal 1, #6) on the prioritized allotments listed in Livestock Grazing, Goal 1, #2, and expanding to other allotments as needed. Part of the monitoring process may include an upland inventory; however, upland inventories must be specific to individual management units. In addition, part of the monitoring process will include monitoring of use standards and (or) habitat conditions that may be applied to specific streams or upland habitats (*e.g.*, see Riparian Areas, Goal 1, #3; and Fisheries, Goal 1, #3). Sampling only the plant communities within critical areas would not provide information on resource conditions unique to a management unit or specific streams within that unit.

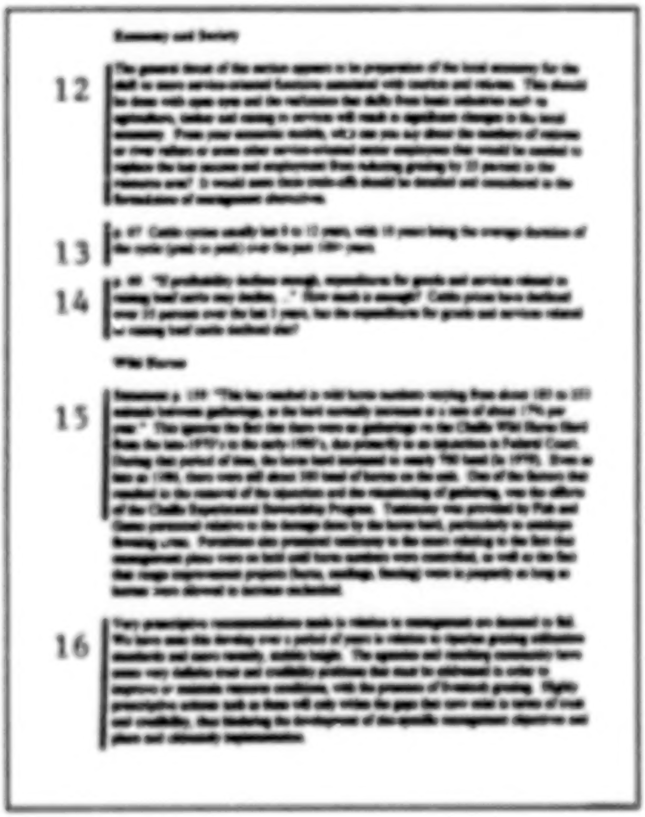
20-3: RMP goals are stated in terms of resource conditions, where appropriate (for example, see Proposed RMP: - Livestock Grazing, Goal 1; Wildlife Habitat, Goals 2 and 3; Noxious Weed Infestations, Goal 3; Rangeland Vegetation Treatment Projects, Goal 1; and Upland Watershed, Goal 1). The various alternatives described a range of management decisions (such as stubble height criteria) which would be implemented to achieve these goals.

20-4: The "Rangeland Monitoring" discussion on page 101 accurately summarizes the analysis of 120 nested frequency study site data and photo plots. This analysis included climate, actual use, and utilization data, where available. Detailed descriptions of these data are available for review in the Challis Resource Area Office in Salmon, Idaho.

20-5: Much of the discussion on Biological Diversity (DRMP, pp. 52-56) is excerpted from the 1991 Keystone Center Report - *Biological Diversity on Federal Lands*. Plant succession is indeed a continuing, dynamic, natural process; however, the rate of succession and the particular path of plant succession are greatly influenced by the severity and frequency of natural and induced disturbances along with the composition of the present plant community. If a particular ecological site is not at "potential natural community" (PNC) seral stage, then it likely has undergone some sort of natural or induced disturbance that altered the site's plant community. This concept recognizes that PNC is dependent upon natural disturbances (fire, insects, climatic extremes) in order to remain dynamic and resilient within its historical range of variability. These disturbances can alter a site's plant community in the short term; but, as

313

Letter No. 20 *continued*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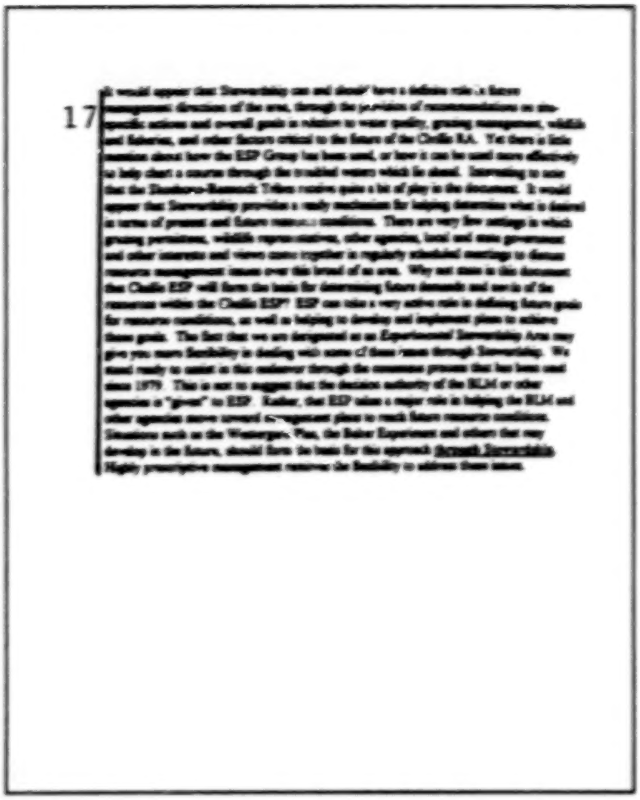
long as the site has maintained its site potential (through soil structure, fertility, water holding capacity, nutrient and energy cycles, etc.) the native plants will progress up the seral scale towards PNC. During this process other disturbances may occur which dictate the site's historical range of variability. Disturbances can direct a site beyond its historical range of variability towards a completely different vegetation path. This new pathway may be short or long term and may even become irreversible. This concept is described in "state-and-transition models" by Westoby et al. (1989) and others.

In order to clarify the RMP's discussion of succession processes, the Proposed RMP contains a revised definition of PNC and adds a definition of ecological site.

20-6: The BLM believes the goals of improving rangeland conditions and obtaining functioning riparian conditions where these conditions are not being realized are valid, regardless of the vintage of land use plan providing the direction. Your reference to move from Late Seral to PNC appears to be a misinterpretation of Management Concern: Livestock Grazing, Goal #1 (DRMP, p. 350). The goal states that 40% of the uplands within the Resource Area should be Late Seral to PNC, meaning within the range of these high seral states. These goals are also realistic and obtainable, as indicated by the improvement in upland conditions in the Mountain Springs (San Felipe) Allotment and the favorable trends in the Herd Creek and Warm Springs allotments (see response 15-2). Riparian and aquatic conditions have also improved in Road and Herd creeks and their tributaries; data indicate an upward trend towards expanding hydric plant communities, improved woody age structure and increased streambank stability, leading to functional riparian systems. These positive results were obtained by modifying grazing management actions and applying use standards, while still providing for significant livestock grazing.

20-7: ESP's involvement in evaluating the RMP's proposals and goals has been welcomed throughout the RMP planning process, and will continue to be sought during RMP implementation following selection of the approved plan.

20-8: The trend analysis performed in 1992 indicated 76 of the 120 sites were inconclusive **due to insufficient data**, not because of a lack of statistical significance between data sets (which would indicate a static trend). Since 1992, an additional 25 nested frequency plots have been read showing the following results: seven (7) upward trend, nine (9) downward trend and nine (9) static trend. These new data generally indicate a lack of improvement when viewed throughout the Resource Area; however specific allotments (or management areas within an allotment) may be improving. The BLM will continue to monitor the uplands so that eventually there is sufficient data to determine trend



17 It would appear that Stewardship can and should have a definite role in future management direction of the area, through the provision of recommendations on site-specific actions and overall goals in relation to water quality, grazing management, wildlife and fisheries, and other factors critical to the future of the Challis RA. Yet there is little mention about how the ESP Group has been used, or how it can be used more effectively to help chart a course through the troubled waters which lie ahead. Interesting to note that the Shoshone-Bannock Tribes receive quite a bit of play in the document. It would appear that Stewardship provides a ready mechanism for helping determine what is desired in terms of present and future resource conditions. There are very few settings in which grazing permittees, wildlife representatives, other agencies, local and state government and other interests and views come together in regularly scheduled meetings to discuss resource management issues over this broad of an area. Why not state in this document that Challis ESP will form the basis for determining future demands and needs of the resources within the Challis ESP? ESP can take a very active role in defining future goals for resource conditions, as well as helping to develop and implement plans to achieve those goals. The fact that we are designated as an *Experimental Stewardship Area* may give you more flexibility in dealing with some of these issues through Stewardship. We stand ready to assist in this endeavor through the consensus process that has been used since 1979. This is not to suggest that the decision authority of the BLM or other agencies is "given" to ESP. Rather, that ESP takes a major role in helping the BLM and other agencies move toward management plans to reach future resource conditions. Situations such as the [illegible] Plan, the Baker Experiment and others that may develop in the future, should form the basis for this approach through Stewardship. Highly prescriptive management removes the flexibility to address these issues.

throughout the Resource Area. Monitoring will focus on the allotments listed in the PRMP under Livestock Grazing Goal 1, #2.

20-9: The BLM disagrees with your interpretation that deteriorating conditions prevail throughout the Resource Area. Page 101 of the DRMP indicates improving or static upland conditions do exist. You are correct in referencing an increase in some big game numbers (specifically elk) and wild horse numbers. However, elk and wild horses are very adaptable and these species' population trends do not necessarily reflect the overall trend in habitat health. Many other indicators suggest that other resources may be in less than satisfactory condition in many locations throughout the Resource Area (aquatic habitat, water quality, sage grouse habitat, bighorn sheep habitat, etc). The BLM believes the analysis of impacts contained in the DRMP, Chapter 4 - Environmental Consequences adequately captures the adverse effects of competing and conflicting uses under Existing Management (Alternative 1). An increase in recreational activity is being realized throughout the West with the renewed interest in the nation's public lands and the increase in regional population, and not necessarily because of improved resource conditions or actions resulting from the RMP (see DRMP, p. 257, "Introduction" and "Summary of Effects," #2).

20-10: The statement in the Draft RMP, p. 104, you are concerned about has been revised in the Proposed RMP. You are correct in viewing "functional-at-risk" as "functional" because, by definition, it is. However, streams that are at-risk are lacking or cannot sustain some important attributes of properly functioning systems. Attributes such as channel type, downcutting and lateral cutting, poor vegetation, or unhealthy watersheds make the stream system susceptible to degradation during periodic high flow events. The RMP's goal is to obtain and maintain the full range of attributes characteristic of a properly functioning system (see PRMP, Livestock Grazing, Goal 1 and Riparian Areas, Goal 1).

20-11: The BLM believes the potential to improve riparian condition to properly functioning is still present, although the time frames to obtain success may be quite variable. Some stream reaches may indeed take several years to heal, even with intensive management. The original functionality assessment was made in 1993/1994 through contract inventory and staff review. The latest (1996) annual report to Congress indicated 35.5% properly functioning, 55.9% functional-at-risk and only 8.6% in a non-functional condition. A great deal of this improvement has been obtained on tributaries to the East Fork Salmon River specifically Road, Horse Basin, Mosquito, Bear, Herd and Lake Creeks) in a relatively short time frame through improved management strategies and the application of grazing standards. Other stream reaches within the

Resource Area may have to undergo further stream alteration in order to obtain balance with the hydrology and land form and then build from a new starting point. These situations will take several years to improve through use of very conservative management strategies. The consideration and application of physical structures to assist these management strategies are certainly valid on a case-by-case basis, and are not precluded by the PRMP.

20-12: The discussion of the two-county economy describes current characteristics of the local economy (employment, income, earnings), as well as economic trends during the past 20 to 25 years. The data compiled during the University of Idaho's study of the two counties indicates what ESP terms "basic industries" (grazing, mining, timber) comprise about 60% of employment and earnings for the area, while business associated with visitors to the area and retirees accounts for about 28% of employment and 20% of earnings (see DRMP, pp. 504 and 506). Both Custer and Lemhi counties have experienced consistent growth in the service sector since 1969, a trend which began prior to development of the Challis RMP (DRMP, p. 69) and is expected to continue regardless of BLM management. The quantitative analysis of impacts to the regional economy indicates that the slight effects which are expected to occur as a result of RMP actions are not significant (see DRMP, p. 205a, Alternative 2); *i.e.*, RMP actions are **not** expected to either cause "shifts from basic industries such as agriculture, timber and mining to services" or "result in significant changes in the local economy."

The estimated number of jobs "lost" in the two-county region as a result of expected grazing reductions under Alternative 2 would be approximately 13 jobs, or only .3% of regional employment (DRMP, Table 4-2, p. 210b). You cannot make a direct equivalency of jobs-lost-in-one-industry to jobs-gained-in-another-industry, for each industry has different economic patterns, income ranges, and purchasing patterns. Actual occurrence of service sector jobs is not a trade off or substitution for basic industry jobs, but a change in purchasing patterns or needs requirements. The "trade-offs" of impacts to the various economic sectors **were** considered in the development of RMP alternatives; please note that the analysis of impacts described on pp. 204-212 of the Draft RMP discloses a range of impacts among the alternatives.

20-13: A recent article in *Idaho Outlook* ("Beef Battles Back" May 1997) supports the BLM's discussion of the cyclical nature of cattle prices (DRMP, p. 67). The BLM recognizes that other data sources may describe cattle cycles with slightly different average durations.

20-14: The economic analysis for the Challis Draft RMP used the Custer-Lemhi Economic Model, which is a linear model. The model assumes that if a given reduction in livestock numbers occurs, a commensurate reduction in the costs of goods and services to raise those livestock also occurs. For example, if an operator reduces his or her herd from 100 head to 80 head, the operator would have reduced costs per animal for feed, vaccinations, and the like. However, some costs to raise the livestock herd may remain the same, even if the herd size is reduced - *e.g.*, the cost of the pickup truck and trailer needed to transport stock or the cost of the mower and baler needed to harvest a hayfield. For this reason the BLM stated that expenditures for goods and services MAY decline.

20-15: The Wild Horse and Burro affected environment section (DRMP, pp. 158-161) did not discuss **in detail** how the appropriate management level for the Challis wild horse herd was decided. However, the Draft RMP did state that equilibrium with other resource uses and winter forage requirements were the primary factors for the Challis herd. The interest, input and efforts of the ESP in reaching a satisfactory conclusion to the injunction (which defined the wild horse management level) are noted in the Introduction section of the 1989 Herd Management Area Plan Update. This document is incorporated in the Draft RMP by reference (see DRMP, p. 158).

20-16: It is very important to improve areas that are currently in less than satisfactory condition as quickly as possible, while considering ongoing social, economic, biological, and physical uses, needs, and constraints. Immediate changes in management are necessary to abate any ongoing impacts that may become irreversible if left unattended. The Proposed RMP clearly defines management actions that are likely to yield rapid response in areas most in need of improvement, while not eliminating commodity-based uses of the public lands. Since 1993, very positive results have been achieved using this approach on many upland habitats (see response 20-1) and riparian areas (see response 20-11). Other knowledgeable and reasonable practices (see PRMP, Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #4) will be considered as a viable means of reaching the stated goals, providing these practices have been effective in past applications and can meet interdisciplinary team and environmental analysis (EA) review. Once the upland or riparian habitat has responded favorably and has become resilient and sustainable, then other management schemes, if meeting the knowledgeable and reasonable criteria, can be entertained with relative certainty of maintaining these productive habitats while providing additional flexibility to the public lands user. The BLM regrets you perceive that the RMP's management decisions encourage "distrust and credibility problems"; the BLM anticipates improved relationships with public land users as a result of the improved resource conditions that will occur from implementing RMP actions.

Response to Letter No. 20 *continued*

20-17: As stated in response 20-7, ESP's involvement and assistance are welcome. ESP involvement was actively pursued during the planning process for the Draft RMP; the RMP was an agenda item at regularly scheduled ESP meetings (see DRMP, pp. 335-338). Stewardship's role in providing recommendations, and ESP's assistance in developing and implementing specific plans to achieve defined objectives and goals, are certainly recognized and appreciated. The BLM agrees ESP's role in the management of the public lands within the Challis Resource Area can and should be utilized further in the future. ESP is encouraged to submit innovative proposals, to participate in the public involvement process and project planning, and to provide input and comments on environmental assessments. The BLM welcomes ESP's assistance and recommendations in developing resource objectives at the activity plan level (*e.g.*, grazing allotments, herd management areas), along with providing valuable information for future watershed assessment efforts.

Letter No. 21

add to existing list

January 8, 1997

To Whom It May Concern:

1 I would appreciate your consideration of the following lands for disposal through the Desert Land Entry Program:

T16N R20E Section 35 SW4 NW4 Everything east of Highway 93
T15N R20E Section 2 NE4 NE4
T15N R20E Section 1 NW4 NW4
T15N R20E Section 1 NE4 NW4
~~[illegible]~~
T16N R20E Section 34 SE4 SE4 lying east of Highway 93
T15N R20E Section 3 Lot 1 or NE4 NE4

If you have any question please contact me at the above address or at [illegible]

Thank you.

BLM Response to Letter No. 21

21-1: The BLM considered your request that certain public lands be made available for disposal through Desert Land Entry.

The following parcels were added to the Proposed RMP as adjustment areas on Map A: Adjustment/Management Areas to indicate they would be available for potential disposal through exchange or DLE:

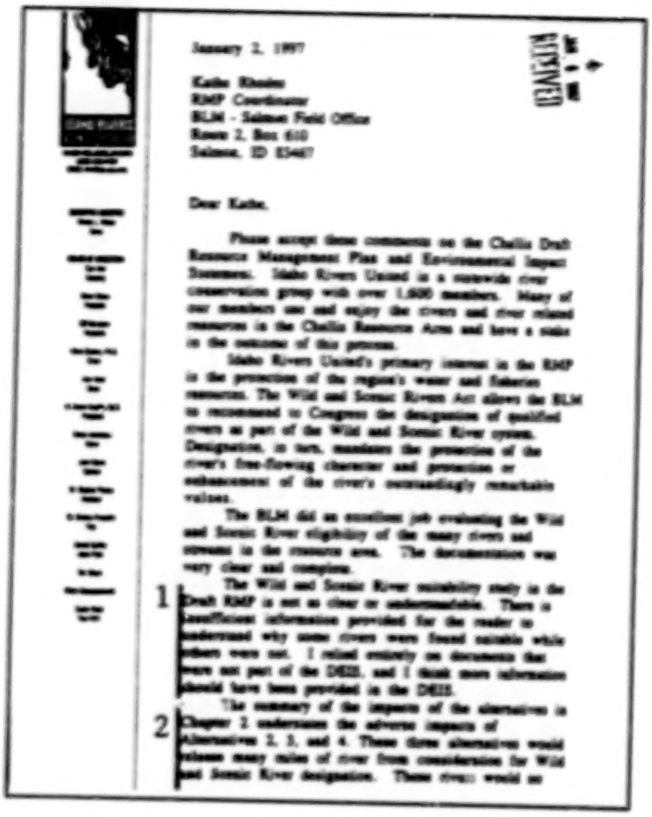
T16N, R20E, Sec. 35, SW4NW4 everything east of Highway 93
T15N, R20E, Sec. 2 NE4NE4
T15N, R20E, Sec. 1 NW4NW4
T15N, R20E, Sec. 1 NE4NW4

The following two parcels were not included in the Proposed RMP as adjustment areas because they do not meet the soils or slope criteria for Desert Land Entry (see PRMP, Land Tenure and Access, Goal 2, #4):

T16N, R20E, Sec. 34, SE4SE4 lying east of Highway 93
T15N, R20E, Sec. 3, lot 1 or NE4NE4.

In addition, the BLM wishes to retain these parcels because of resource concerns: these public lands are visible from an eligible Wild and Scenic River segment; are within the corridor for Visual Resource Management Class II, which emphasizes retention of existing visual quality; are in close proximity to a BLM campground; and contain pristine vegetation communities and other important resource values.

Letter No. 22



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January 2, 1997

Kathe Rhodes
RMP Coordinator
BLM - Salmon Field Office
Route 2, Box 610
Salmon, ID 83467

Dear Kathe,

Please accept these comments on the Challis Draft Resource Management Plan and Environmental Impact Statement. Idaho Rivers United is a statewide river conservation group with over 1,600 members. Many of our members use and enjoy the rivers and river related resources in the Challis Resource Area and have a stake in the outcome of this process.

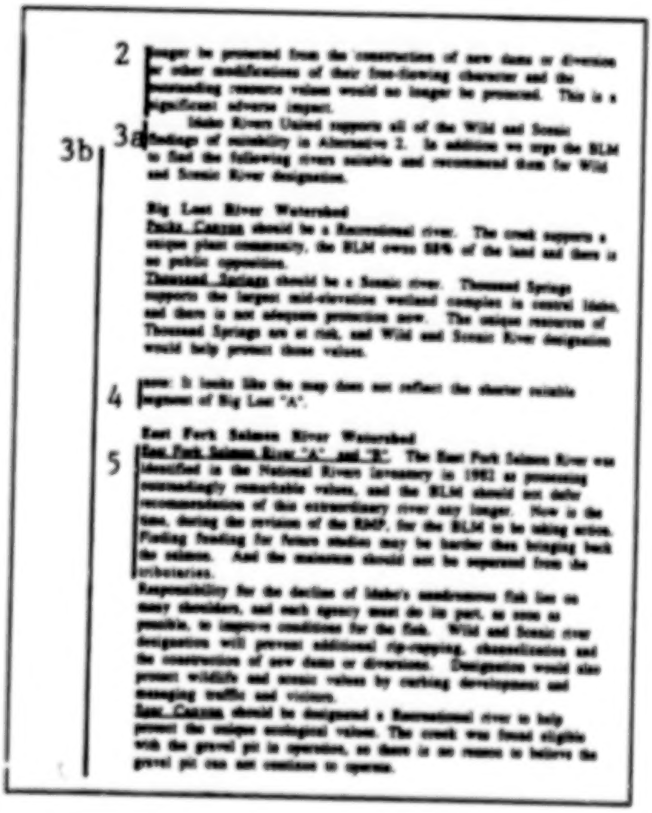
Idaho Rivers United's primary interest in the RMP is the protection of the region's water and fisheries resources. The Wild and Scenic Rivers Act allows the BLM to recommend to Congress the designation of qualified rivers as part of the Wild and Scenic River system. Designation, in turn, mandates the protection of the river's free-flowing character and protection or enhancement of the river's outstandingly remarkable values.

The BLM did an excellent job evaluating the Wild and Scenic River eligibility of the many rivers and streams in the resource area. The documentation was very clear and complete.

1 The Wild and Scenic River suitability study in the Draft RMP is not as clear or understandable. There is insufficient information provided for the reader to understand why some rivers were found suitable while others were not. I relied entirely on documents that were not part of the DEIS, and I think more information should have been provided in the DEIS.

2 The summary of the impacts of the alternatives in Chapter 2 understates the adverse impacts of Alternatives 2, 3, and 4. These three alternatives would release many miles of river from consideration for Wild and Scenic River designation. These rivers would no

Letter No. 22 *continued*



2 longer be protected from the construction of new dams or diversion or other modifications of their free-flowing character and the outstanding resource values would no longer be protected. This is a significant adverse impact.

3b 3a Idaho Rivers United supports all of the Wild and Scenic findings of suitability in Alternative 2. In addition we urge the BLM to find the following rivers suitable and recommend them for Wild and Scenic River designation.

Big Lost River Watershed

Pecks Canyon should be a Recreational river. The creek supports a unique plant community, the BLM owns 88% of the land and there is no public opposition.

Thousand Springs should be a Scenic river. Thousand Springs supports the largest mid-elevation wetland complex in central Idaho, and there is not adequate protection now. The unique resources of Thousand Springs are at risk, and Wild and Scenic River designation would help protect those values.

4 note: It looks like the map does not reflect the shorter suitable segment of Big Lost "A".

East Fork Salmon River Watershed

5 **East Fork Salmon River "A" and "B".** The East Fork Salmon River was identified in the National Rivers Inventory in 1982 as possessing outstandingly remarkable values, and the BLM should not defer recommendation of this extraordinary river any longer. Now is the time, during the revision of the RMP, for the BLM to be taking action. Finding funding for future studies may be harder than bringing back the salmon. And the mainstem should not be separated from the tributaries.

Responsibility for the decline of Idaho's anadromous fish lies on many shoulders, and each agency must do its part, as soon as possible, to improve conditions for the fish. Wild and Scenic river designation will prevent additional rip-rapping, channelization and the construction of new dams or diversions. Designation would also protect wildlife and scenic values by curbing development and managing traffic and visitors.

Spar Canyon should be designated a Recreational river to help protect the unique ecological values. The creek was found eligible with the gravel pit in operation, so there is no reason to believe the gravel pit can not continue to operate.

BLM Response to Letter No. 22

22-1: The background information used to arrive at the suitability findings presented in the Draft RMP is part of the Planning Record for the Challis RMP. This information is available upon request to anyone. In response to your suggestion, a more detailed explanation of the suitability process has been included in the Proposed RMP (see Attachment 18: Wild and Scenic Rivers Study).

22-2: The BLM disagrees that significant adverse impacts would occur to the OR values of the segments found unsuitable (see DRMP, p. 332a, #1, Alternative 2). Decisions throughout the RMP which would maintain or improve resource conditions would also maintain or improve many of the OR values. In addition, laws such as the Endangered Species Act, Archaeological Resources Protection Act, and the Historic Preservation Act would provide protection for many of the OR values.

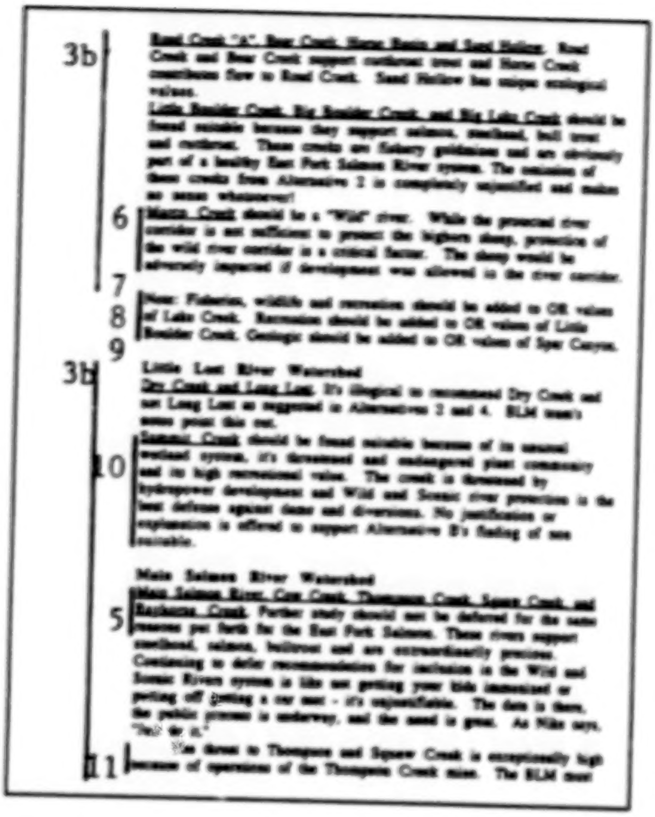
The BLM agrees that free flowing character may not be protected on the river segments found unsuitable. However, the risk of hydropower development is believed to be low for 36 segments, moderate for 5 segments, and high for only 1 segment. Note that the W&SR Act provides for inclusion of rivers which are appropriate for a national system of rivers, and does not require that all eligible rivers be protected beyond completion of a suitability study.

22-3: (a) The BLM has noted your support for the suitability findings of Alternative 2. The Proposed RMP adopts the suitability findings of Alternative 2 with one change; river segment East Fork "B" (EF-01b) was incorrectly described as "Eligibility determination will be deferred" in the Draft RMP. In fact, this segment is eligible, with a suitability finding deferred until a coordinated river study (see response 22-5).

(b) Your preferences for additional suitability findings are noted. However, after reviewing your recommendations, the BLM has decided not to include any additional river segments in the PRMP beyond those which were included in Alternative 2 of the DRMP.

The BLM understands the charge of the W&SR Act to be to determine which, if any, river segments within the planning area would be suitable for inclusion in a national rivers system. Many factors were considered in making that determination, including such things as the length of the segment, outstandingly remarkable (OR) values present within the river corridor, floatability, flow status, importance to the suitability of other segments, water development potential, the BLM's ability to manage the segment as a designated river, other opportunities to manage the OR values present, commitment of other involved land owners in sharing administration of the segment, identified support of or opposition to designation, consistency with other approved plans, and estimated

Letter No. 22 *continued*



3b **Road Creek "A", Bear Creek, Horse Basin and Sand Hollow.** Road Creek and Bear Creek support cutthroat trout and Horse Creek contributes flow to Road Creek. Sand Hollow has unique ecological values.

Little Boulder Creek, Big Boulder Creek, and Big Lake Creek should be found suitable because they support salmon, steelhead, bull trout and cutthroat. These creeks are fishery goldmines and are obviously part of a healthy East Fork Salmon River system. The omission of these creeks from Alternative 2 is completely unjustified and makes no sense whatsoever!

6 **Martin Creek** should be a "Wild" river. While the protected river corridor is not sufficient to protect the bighorn sheep, protection of the wild river corridor is a critical factor. The sheep would be adversely impacted if development was allowed in the river corridor.

7 8 9 Note: Fisheries, wildlife and recreation should be added to OR values of Lake Creek. Recreation should be added to OR values of Little Boulder Creek. Geology should be added to OR values of Spar Canyon.

3b **Little Lost River Watershed**

Dry Creek and Long Lost. It's illogical to recommend Dry Creek and not Long Lost as suggested in Alternatives 2 and 4. BLM team's notes point this out.

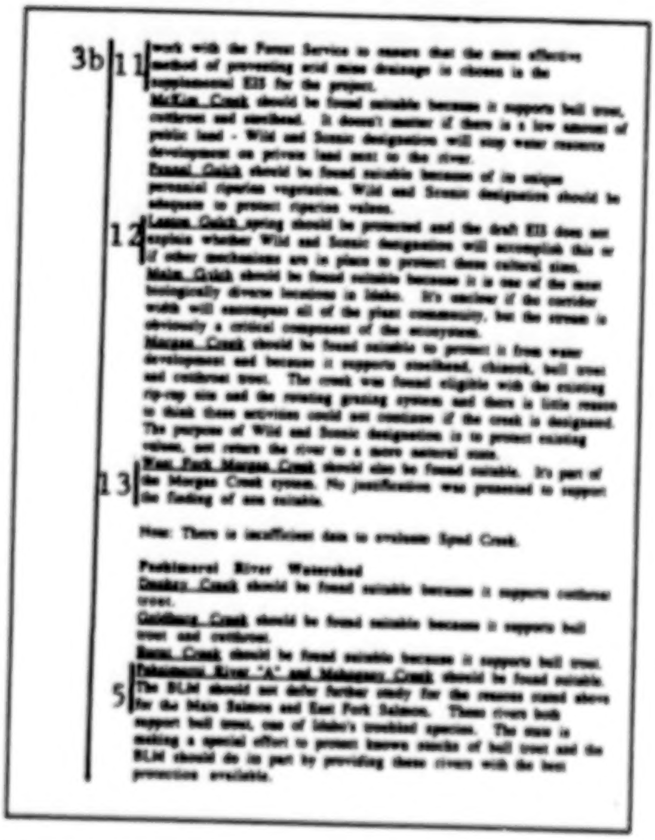
10 **Summit Creek** should be found suitable because of its unusual wetland system, it's threatened and endangered plant community and its high recreational value. The creek is threatened by hydropower development and Wild and Scenic river protection is the best defense against dams and diversions. No justification or explanation is offered to support Alternative B's finding of non suitable.

Main Salmon River Watershed

5 **Main Salmon River, Cow Creek, Thompson Creek, Squaw Creek, and Bayhorse Creek.** Further study should not be deferred for the same reasons put forth for the East Fork Salmon. These rivers support steelhead, salmon, bulltrout and are extraordinarily precious. Continuing to defer recommendations for inclusion in the Wild and Scenic Rivers system is like not getting your kids immunized or putting off getting a car seat - it's unjustifiable. The data is there, the public process is underway, and the need is great. As Nike says, "Just do it."

11 The threat to Thompson and Squaw Creek is exceptionally high because of operations of the Thompson Creek mine. The BLM must

Letter No. 22 *continued*



3b 11 work with the Forest Service to ensure that the most effective method of preventing acid mine drainage is chosen in the supplemental EIS for the project.

McKim Creek should be found suitable because it supports bull trout, cutthroat and steelhead. It doesn't matter if there is a low amount of public land - Wild and Scenic designation will stop water resource development on private land next to the river.

Pennal Gulch should be found suitable because of its unique perennial riparian vegetation. Wild and Scenic designation should be adequate to protect riparian values.

12 **Lemon Gulch** spring should be protected and the draft EIS does not explain whether Wild and Scenic designation will accomplish this or if other mechanisms are in place to protect these cultural sites.

Malm Gulch should be found suitable because it is one of the most biologically diverse locations in Idaho. It's unclear if the corridor width will encompass all of the plant community, but the stream is obviously a critical component of the ecosystem.

Morgan Creek should be found suitable to protect it from water development and because it supports steelhead, chinook, bull trout and cutthroat trout. The creek was found eligible with the existing rip-rap site and the existing grazing systems and there is little reason to think these activities could not continue if the creek is designated. The purpose of Wild and Scenic designation is to protect existing values, not return the river to a more natural state.

13 **West Fork Morgan Creek** should also be found suitable. It's part of the Morgan Creek system. No justification was presented to support the finding of non suitable.

Note: There is insufficient data to evaluate Spud Creek.

Pahsimeroi River Watershed

Donkey Creek should be found suitable because it supports cutthroat trout.

Goldburg Creek should be found suitable because it supports bull trout and cutthroat.

Burnt Creek should be found suitable because it supports bull trout.

5 **Pahsimeroi River "A" and Mahogany Creek** should be found suitable. The BLM should not defer further study for the reasons stated above for the Main Salmon and East Fork Salmon. These rivers both support bull trout, one of Idaho's troubled species. The state is making a special effort to protect known stocks of bull trout and the BLM should do its part by providing these rivers with the best protection available.

BLM Response to Letter No. 22 *continued*

potential costs of administering the segment, if designated. In addition to considering the qualities of the river segment and its corridor, the BLM recognized that determining a river suitable for management as part of a national rivers system is an issue of allocation. For example, there may be rivers that have numerous OR values present within the river corridor, but because of other issues such as current or proposed uses in or near the corridor, the BLM may have chosen not to allocate that river for management as a national wild, scenic, or recreational river. In those cases the rivers were found unsuitable. Although the free-flowing character of the river, the presence and importance of OR values, and the protection that would be afforded under the W&SR Act were given heavy consideration, they were not viewed as circumstances that would require a finding of "suitable" on any given river segment.

22-4: Map K: Wild and Scenic River Suitability Findings - Alternative 2 accurately reflects the BL-17 Big Lost River "A" suitability proposal of the shortened segment. However, the segment was incorrectly labeled as "recreational" rather than "scenic." This error has been corrected in the PRMP. Map M in the DRMP properly reflects the Alternative 4 proposal.

22-5: In response to your comments about coordinated study and/or deferring study to a later date, the BLM offers the following explanation.

Section 5 of the W&SR Act states its intent for coordinated river study when it addresses the rivers designated in the Act for potential addition to the national rivers system. It states, "The study of any of said rivers shall be pursued in as close cooperation with appropriate agencies of the affected State and its political subdivisions as possible, shall be carried on jointly with such agencies if request for such joint study is made by the State, and shall include a determination of the degree to which the State or its political subdivisions might participate in the preservation and administration of the river should it be proposed for inclusion in the national wild and scenic river system."

In 1991, the Idaho - BLM State Director entered into a Memorandum of Understanding (MOU) with the Governor, State of Idaho, and Regional Foresters of the Northern and Intermountain Regions of the Forest Service. The purpose of the MOU is to "formalize a cooperative relationship for conducting river planning efforts and Wild and Scenic Rivers Studies of Idaho's rivers; among the State of Idaho, the Forest Service, and the Bureau of Land Management. It affirms commitments to: prioritize Federal Wild and Scenic Rivers Studies and coordinate Federal studies with State planning activities; shares data and planning resources between State and Federal water resource planning agencies; and coordinates public education and information outreach programs." Further, in 1992 the

Thank you for your consideration of these comments. Please inform us of your decisions.

Sincerely,

Liz Paul
Assistant Director

affected Forest Supervisors, BLM District Manager, and Idaho Department of Water Resources representative entered into a Study Agreement whose purpose "is to coordinate river basin planning activities in the Upper Salmon River Basin consistent with the MOU dated February 14, 1991 between the signatory agencies. This will include definition of the study area, designation of agency roles, timing and funding for the planning process, collection and sharing of data, and implementing procedures." Three of the rivers included in the study agreement are the Pahsimeroi River, the East Fork Salmon River, and the Main Salmon River. As a result of these agreements, the Challis PRMP deferred completion of the suitability study for these rivers to a coordinated study effort.

In addition to the Main Salmon, East Fork Salmon, and Pahsimeroi rivers, the Challis DRMP and PRMP deferred suitability finding on nine other segments (see DRMP, p. 174, and PRMP, Wild and Scenic Rivers) which are closely linked to and should be studied with the three main deferred rivers, would be suitable only as part of a system, or are logical extensions of river segments administered by the Forest Service or Upper Snake River District - BLM. To study a portion of a river identified solely on the basis of management responsibility would not present a complete picture of the suitability of the entire river reach.

22-6: River Segment EF-28, Marco Creek was included in the suitability study in error. Marco Creek is not free flowing and is therefore ineligible for WSR study (Challis Resource Area National Wild and Scenic Rivers Eligibility Report, BLM 1993, p. 19).

22-7: The BLM determined that Lake Creek has a fisheries OR value because chinook salmon occupied habitat occurs below the lake. However, recreational and wildlife values within the WSR corridor are not considered to be outstandingly remarkable. Even though Lake Creek has an additional OR value, the BLM did not find the segment suitable for inclusion in a nationwide system of WSR.

22-8: The BLM considered your request, and determined that no outstandingly remarkable recreational values are present within the WSR corridor for Big Boulder Creek.

22-9: The BLM considered your request and determined that, since no new information has been added, there are still no geologic OR values present in the Spar Canyon segment.

22-10: River segment LL-01, Summit Creek is not "nonsuitable" [unsuitable] under "Alternative B" [Alternative 2], as you state; a suitability study of this segment has been deferred until a coordinated study with the Upper Snake River District - BLM. Until suitability is determined, this BLM

BLM Response to Letter No. 22 *continued*

segment will be managed to "maintain the level of development that resulted in its classification, to ensure non-degradation of its OR values, and to protect free-flowing characteristics" (PRMP, Wild and Scenic Rivers).

22-11: Your comment is noted. The BLM is a cooperating agency (with the USFS) on the proposed action to develop a Supplemental Plan of Operations for the Thompson Creek Mine in order to address acid mine drainage concerns.

22-12: The Leaton Gulch spring would be protected under the cultural resource laws mentioned in response 22-2.

22-13: Please note that the BLM did find the West Fork of Morgan Creek (MS-67) suitable (Recreational classification), but only as part of a system including USFS lands (PRMP, Wild and Scenic Rivers).

Letter No. 24

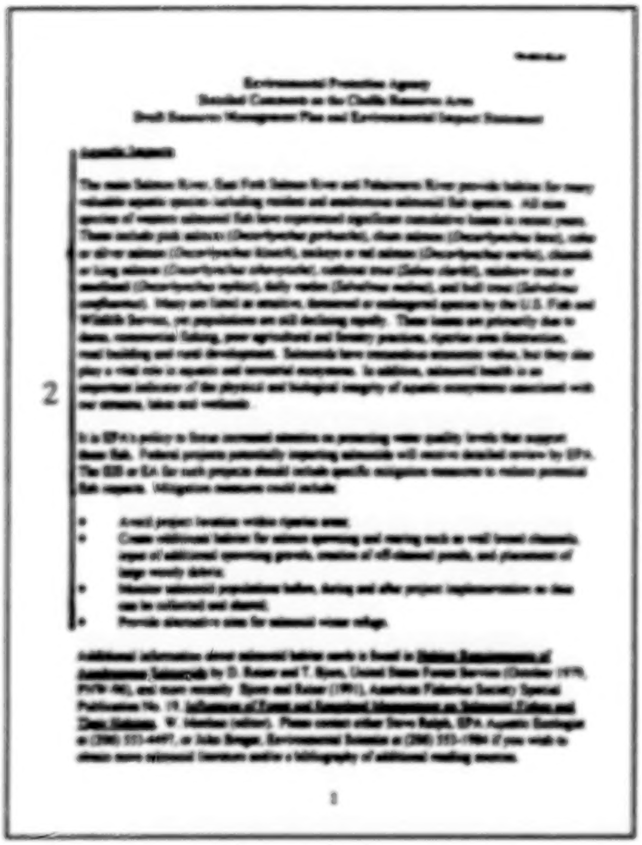
BLM Response to Letter No. 24

24-1: Several Draft RMP alternatives emphasize restoration of degraded riparian areas (see DRMP, Volume 2, Alternatives 2 through 5). The alternatives differ in the rate of restoration and the means through which restoration would be achieved. The Proposed RMP (PRMP) revises the Preferred Alternative (Alternative 2) in response to public comments. However, the PRMP retains an emphasis on restoring degraded riparian areas to their natural condition.

The PRMP's approach to maintaining good water quality and restoring degraded water quality in the Challis Resource Area is two-fold. First, the PRMP includes decisions which address water quality impacts from all non-point sources, including grazing. Second, the PRMP includes decisions to inventory and monitor resources and to manage resources and activities in order to restore uplands, riparian areas, and aquatic habitats; these actions have direct and indirect beneficial impacts to water quality, which are documented in Chapter 4.

24-2: The PRMP contains many specific actions to provide good quality aquatic habitat for resident and anadromous salmonid fish species, including several special status fish species. The U.S. Fish and Wildlife Service and National Marine Fisheries Service have reviewed our Biological Assessment of the Proposed RMP and given us concurrence on the BLM's determinations of "may affect, but not likely to adversely affect" for listed fish species. The BLM's revisions of Alternative 2 in preparation of the PRMP

Letter No 24 *continued*



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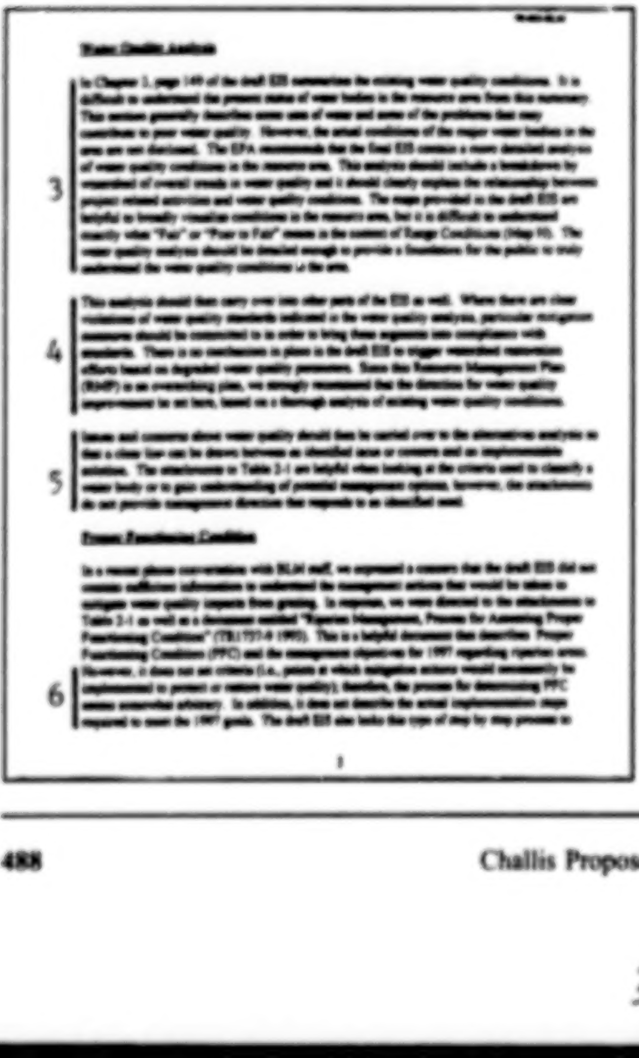


BLM Response to Letter No. 24 *continued*

clarify and strengthen many BLM management decisions which focus on riparian and aquatic habitat condition.

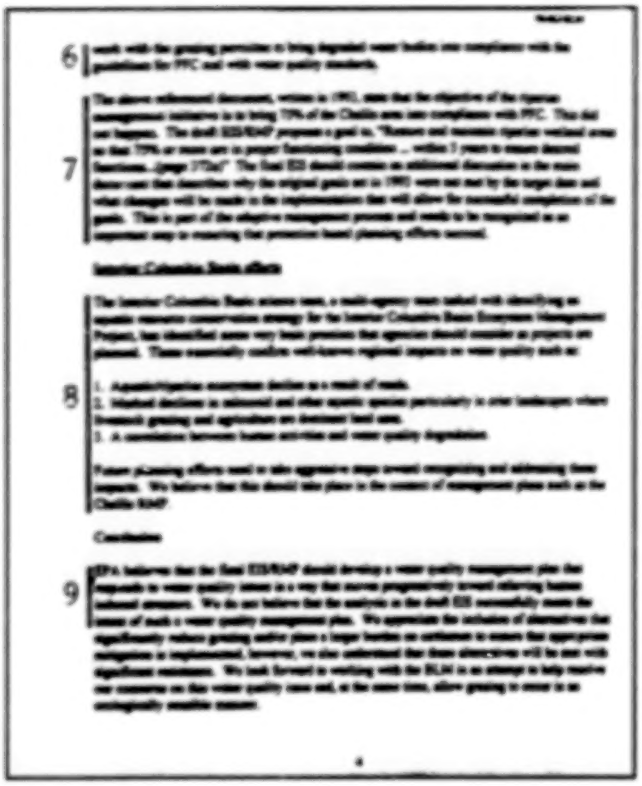
The following paragraphs document the BLM's responses to EPA's suggestions regarding actions to reduce potential fish impacts.

(1) *Avoid project location in riparian areas*: The PRMP sets standards for grazing management and riparian and aquatic habitat condition, and provides other management direction which would prevent adverse impacts to riparian areas and/or restore degraded riparian areas. The following are examples of management decisions in the PRMP which avoid and/or limit impacts in riparian areas: Fire Management, Goal 1, #5 and 6; Fisheries, Goal 1, #4; Floodplain/Wetland Areas, Goal 1, #2 and 3; Forested Areas, Goal 1, #15-17, 21; Hazardous Materials Management , Goal 1, #1, 2, and 5; Land Tenure, Goal 3, #1 and 4; Livestock Grazing, Goal 1, #8, 9, and 11; Minerals, Goal 1, #6, Goal 2, #6, and Goal 3 , #5; Off-highway Vehicle Use, Goal 1, #1; Recreation Opportunities, Goal 1, #3; Riparian Areas, Goal 1, #4-7, and 12; Transportation, Goal 1, #6-9; Upland Watershed, Goal 1, #1, 2, and 10; Water Quality, Goal 1, #5-7; Wild Horse and Burro Management, Goal 1, #7; Wildlife Habitat Management, Goal 1, #4 and Goal 2, #3; Attachment 5: Standard Operating Procedures - "General" #1-4; Attachment 8: Design Specifications for Forest Management (Roads), #2, Minerals, #1, and Rangeland Improvement, #2 and 5.

The analysis of environmental consequences (see PRMP, Chapter 4) indicates the decisions listed above would be effective in reducing potential impacts to riparian areas and fisheries habitat. Since 1993, similar riparian area grazing management has been implemented on some Challis Resource Area allotments within anadromous fish habitat, with noticeable improvement in riparian habitat condition (see response 15-5, paragraph 1).

(2) *Create additional spawning and rearing habitat for salmon*: The PRMP provides direction for maintaining or improving existing habitats (see Fisheries, Goal 1, #3, 4, 7, 9, 10, 13, and 14). Although the PRMP does not outline a specific plan for creating new habitat, it encourages cooperative efforts to manage fisheries habitat (see Fisheries, Goal 1, #6); these cooperative efforts could include activities such as those suggested by EPA.

(3) *Monitor salmonid populations before, during, and after project implementation so data can be collected and shared*: Please be aware that it is the BLM's role to manage fisheries habitats, but it is the State of Idaho's responsibility to manage fisheries populations, including conducting population monitoring. The BLM collects and shares data with other agencies on fisheries habitat



with other agencies on fisheries habitat condition, species distribution (presence/absence within a stream) and water quality factors. This kind of inventory and monitoring would continue to be provided for in the PRMP (see Fisheries, Goal 1, #3, 12, 16; and Water Quality, Goal 1, #1 and 3). The PRMP provides for project-specific actions to reduce impacts to special status fish species (see Attachment 5: General SOP #4); these actions could include monitoring, if necessary. Attachment 12 also contains provision for monitoring (step #14) to ensure beneficial uses (including fisheries habitat) are being protected.

(4) *Provide alternative salmonid winter refuge sites:* There is no evidence to suggest that winter refuge is a limiting factor for fish in the Challis Resource Area. Therefore, the BLM feels there is no need to provide alternative sites for salmonid winter refuge.

24-3: As EPA suggested, the PRMP adds a discussion of water quality condition and trend by watershed (see Chapter 3 - Water Resources, "Summary of Surface Water Quality, By Principal Drainage Basin). The DRMP analysis of environmental consequences describes "...the relationship between project related activities and water quality conditions..." for each alternative (see DRMP, Chapter 4 - Water Resources). Because the PRMP emphasizes resteration of degraded riparian and aquatic habitats throughout the Resource Area, water quality in all of the watersheds described in the PRMP, Chapter 3 - Water Resources would be expected to improve (see PRMP, Chapter 4 - Water Resources).

24-4: The PRMP contains actions to initiate restoration of degraded stream segments and manage all authorized actions so that good water quality is maintained (see Water Quality, Goal 1; Attachment 3; and Attachment 12). Priority for restoring segments with degraded water quality parameters would be defined in the Implementation Plan for the approved RMP. (Current BLM direction for priority is to focus on functional-at-risk riparian areas with downward trend.) The PRMP also contains standards and decisions which would produce indirect benefits to water quality and prevent water quality degradation from occurring (see response 24-2 (1) above).

24-5: The Draft RMP/EIS identifies water quality as a management concern (Chapter 2), describes implementable solutions (Table 2-1 in Volume 2), and documents the analysis of impacts from the alternatives (Chapter 4). The analysis for Alternative 2 (preferred alternative) indicates "management actions would improve water quality condition and trend" Resource Area-wide (DRMP, p. 291, #1). The specific discussion of water quality impacts for each alternative is stated in the DRMP on pp. 291a-302a, #1-3, 5, 6, 8, 13, 15, 17-18, 21-23, 29-33.

BLM Response to Letter No. 24 *continued*

The introduction to Chapter 4 has been expanded in the Proposed RMP/Final EIS to clarify that issues are identified in Chapter 2, management decisions to address the issues and concerns are listed in the Proposed RMP, and the analysis of impacts from those decisions is described in Chapter 4. In addition, where appropriate, the reader is referred from the Chapter 4 analysis to the relevant management decisions from the PRMP.

24-6: (a) If the RMP were to use "criteria...points at which mitigation actions would necessarily be implemented to protect or restore water quality," the BLM would have to wait for there to be a water quality problem before it could be addressed. Instead, the RMP includes resource condition objectives, management actions, and resource allocations which collectively maintain existing good water quality and improve degraded water quality. PRMP decisions address water quality both directly (see Water Quality, Goal 1) and indirectly, by managing upland, riparian and aquatic habitats (for example, see Upland Watershed, Goal 1, #1-3, 8-11; Riparian Areas, Goal 1; and Fisheries, Goal 1, #4).

(b) The PRMP's plan to achieve proper functioning condition is shown under Management Concern: , Riparian Areas, Goal 1; the definition of proper functioning condition is provided in Attachment 1. Please note that proper functioning condition results in good water quality. The RMP's decisions to achieve proper functioning riparian condition are complemented by many other decisions which would directly or indirectly reduce livestock grazing impacts to water quality (for example, see response 24-2 (1) above).

(c) The specific terms and conditions of individual grazing permits would continue to be established under the discretion of the authorized officer, in accordance with 43 CFR 4130.3. Any terms or conditions of grazing permits would be consistent with and/or implement the decisions in the approved Challis RMP. BLM grazing regulations provide administrative remedies for failure to meet the terms and conditions of grazing permits.

24-7: EPA's comments and suggestions are noted. Management actions to achieve the goals for riparian condition stated in Riparian-Wetland Initiative for the 1990's (BLM 1991) were implemented on some portions of the Challis Resource Area beginning in approximately 1993. These actions to manage and improve riparian habitat and water quality are very similar to management proposed in the PRMP. From 1993 to present, measurable riparian habitat improvement has occurred on the portions of the RA where this management has been implemented. This success on portions of the Resource Area indicates similar improvements can be expected throughout the Resource Area when the RMP is implemented. Thus, the BLM believes the five-year timeframe (from the date the Record of Decision for the

BLM Response to Letter No. 24 *continued*

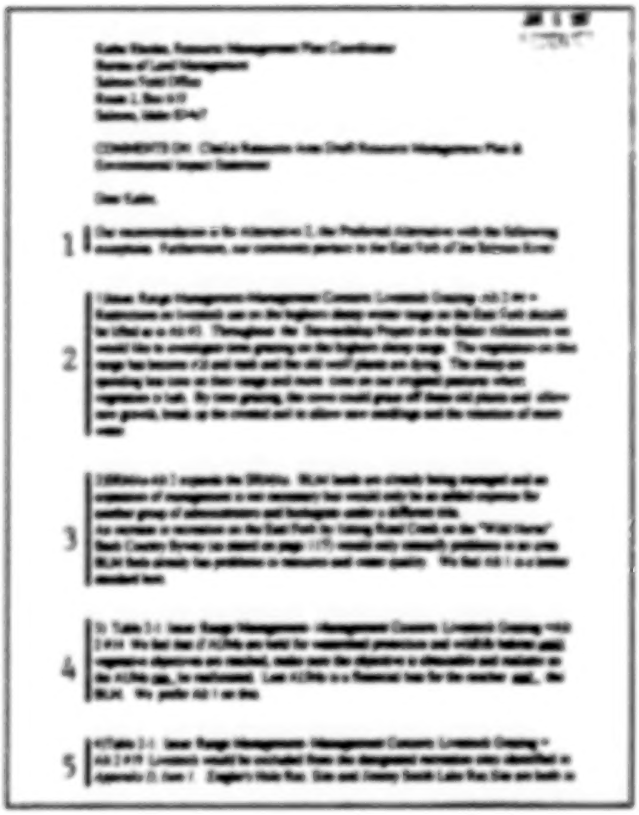
approved RMP is signed) to achieve 75% of riparian areas in proper functioning condition is realistic.

24-8: The BLM considered whether regional impacts to water quality such as the ones EPA lists currently have an impact in the Challis Resource Area.

The PRMP contains management to minimize water quality impacts from road construction and maintenance, livestock grazing, and other human activities within the Resource Area (e.g., mineral development, OHV use, recreation, timber harvest). The BLM analyzed the impacts to water quality from PRMP actions and actions on adjacent USFS, private, and State lands, and determined that water quality would improve Resource Area-wide under proposed management. The BLM also believes the RMP responds to regional trends which affect water quality in the local planning area. For example, (a) the PRMP contains OHV use and road construction/maintenance/closure decisions which reduce the proliferation of roads (OHV Use, Goal 1 and Transportation, Goal 1), and (b) the PRMP provides direction to remove barriers to anadromous fish migration (Fisheries, Goal 1, #9).

24-9: As noted in the above responses, the PRMP contains interdisciplinary management to address water quality issues, including impacts resulting from numerous types of "human induced stressors" (*e.g.*, livestock grazing, mineral development, OHV use, road construction, timber harvest). The analysis of impacts indicates PRMP management would effectively minimize adverse impacts to water quality and restore degraded water quality. For these reasons the BLM does not believe an additional "water quality management plan" is necessary to include in the PRMP.

Letter No. 25



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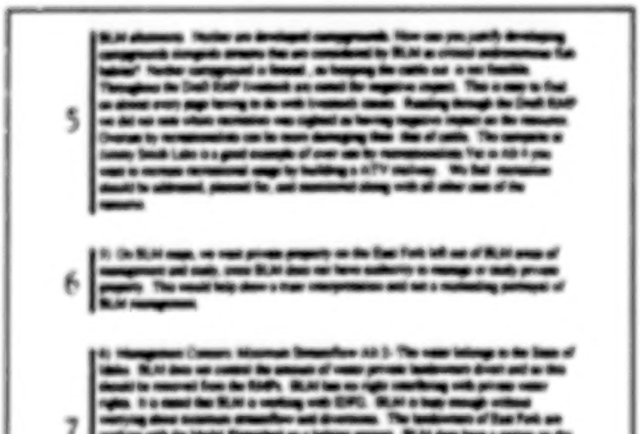


BLM Response to Letter No. 25

25-1: Your preference for Alternative 2, with exceptions, is noted. The BLM's responses to the exceptions you recommend are stated in responses 25-2 through 25-12 below.

25-2: In response to your comment and after consultation with the Idaho Department of Fish and Game, the BLM revised the decision you are concerned about (Livestock Grazing, Goal 1, #4, Alternative 2; DRMP, p. 351a) and the decisions listed under Wildlife Habitat Management, Goal 2, #6, 7, and 8, Alternative 2 (DRMP, p. 358a). The BLM believes the wording in the Proposed RMP clarifies the BLM's intent, which is to protect critical bighorn sheep and elk winter ranges and allow land uses which do not have substantial adverse effects on those winter ranges (see PRMP, Wildlife Habitat, Goal 1, #6).

25-3: Your concerns about the expansion of SRMAs and the nomination of the Road Creek road as a potential addition to the BLM's Back Country Byway program have been noted.

25-4: Your preference for Alternative 1 is noted. Realistic and attainable vegetative objectives would be developed as appropriate during activity planning (e.g., AMP development or revision).

25-5: Adverse effects of recreational activities are a concern to the BLM. The recreation management decisions described in the PRMP are intended to help alleviate recreation caused impacts to resources (see PRMP, Recreation Opportunities and Visitor Use). Please note that the beneficial and adverse impacts of recreation management to other resources were discussed for all alternatives in the DRMP - Chapter 4 (e.g., pp. 201-202, #14 and 15; p. 208, #5; p. 219, #23; pp. 240-241, #28-29, 33; p. 272, #20; p. 283, #26; p. 286, #46; p. 297, #22; and p. 317, #64.)

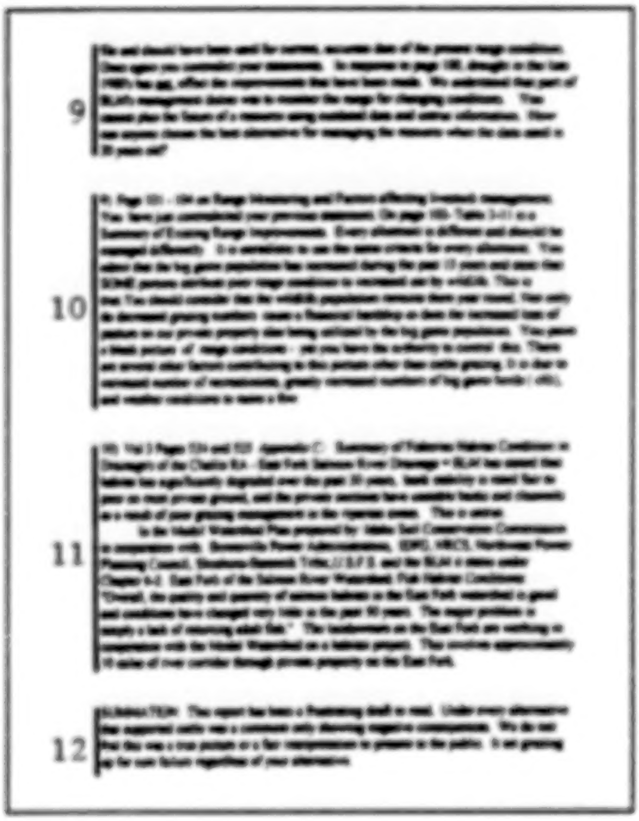
25-6: A text note has been added to all PRMP maps where public/private/State ownership is not fully depicted, explaining that land ownership status is shown on Map E and proposed management only applies to BLM lands.

25-7: Your preference for Alternative 1 is noted. Please see response 16-7.

25-8: Your opinions are noted.

25-9: At the time of the release of the Draft RMP, the table presenting a summary of upland range condition by allotment (Appendix F, Item 2) could only be updated to reflect the results of the 1994 range inventory affecting the Mountain Springs (San Felipe), Warm Springs, and Thousand Springs allotments within the Challis Planning Unit. Information from the rest of the 1994 and 1995 upland range inventories in the Challis Resource Area was not available until after the Draft RMP was released.

Letter No. 25 *continued*



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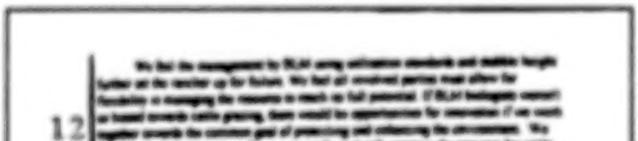


BLM Response to Letter No. 25 *continued*

Recent analysis of these data suggests that improvement may have occurred on other allotments within the Challis Planning Unit because similar actions (intensive grazing systems, range improvement developments, etc.) were also implemented on those allotments. However, this general trend of improved upland range conditions may not have taken place on other allotments within the RA (especially those within the Ellis-Pahsimeroi and Mackay Planning Units), because similar grazing systems and range improvements were not implemented on many of them.

New inventories are proposed in the Challis RMP to update or complete condition and trend information for the various resources in the Challis Resource Area. As explained on page 100 of the DRMP, rangeland inventories to determine ecological seral stage are very expensive and typically take several years to complete on a Resource Area of this size. The effectiveness of past rangeland management actions was evaluated through an analysis of 120 upland trend studies, which included nested frequency and permanent photo plots. This analysis indicated that past management produced little or no change in resource conditions (see Rangeland Monitoring, DRMP, p 101). The Proposed RMP proposes that livestock grazing management changes (e.g., application of use standards, seasons of use, stocking levels) will be determined through monitoring and evaluation of those areas currently in a less than satisfactory condition (see PRMP, Livestock Grazing, Goal 1, #2 and 6).

Drought and other climate-related impacts have had an effect on the amount and extent of resource improvement on some allotments. The BLM agrees that those allotments that went through intensive management adjustments including decreased numbers, later on-dates, rest rotation, and new water and fence developments have come through the drought years in better condition than those that had few or none of the above-mentioned changes.

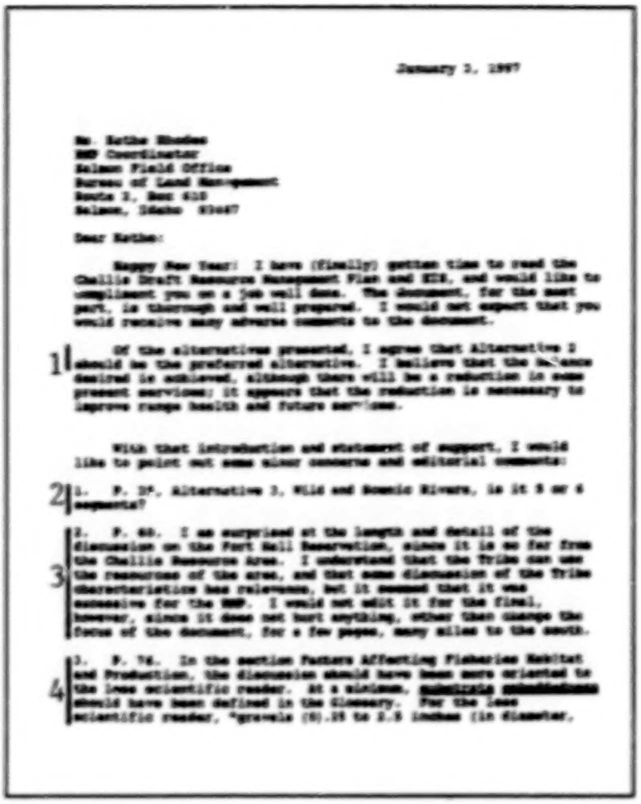
One overall goal of the Challis RMP is to improve range condition where it is presently unsatisfactory. In areas where range conditions are currently satisfactory, this goal may already have been achieved. There are, however, sites in the RA where conditions are unsatisfactory.

25-10: The discussion on pages 101-104 is meant to suggest several possible reasons why land use plan goals were not met. The BLM agrees that there are a number of other factors contributing to range conditions other than livestock grazing, such as major storm events, recreational activities, off-highway vehicle use, and wildlife numbers. However, livestock grazing is the one activity occurring throughout 97.2% of the Resource Area that has the most direct impact on range condition. For example, the IDFG (see Comment Letter Number 32) estimates that big game populations take approximately 8 percent of the forage consumed by grazing animals in the Challis RA, while livestock consume approximately 92 percent. When compared with livestock use, other factors such as recreation and off-highway vehicle use have very minor impacts on range condition. The PRMP has been revised to acknowledge climate as a factor influencing rangeland condition and trend (see PRMP, Chapter 3, Livestock Grazing). Please see Chapter 4, Vegetation for a discussion of the expected impacts other actions would have on vegetation.

25-11: The fisheries habitat assessment for the East Fork of the Salmon River provided in the Challis DRMP, Appendix C, is very similar to the habitat assessment in the Model Watershed Plan (November 1995). The Challis DRMP, Appendix C, pp. 524-525, states that bank stability ranges from fair to good, with an overall good rating, that cobble embeddedness averages 33% or less, and that the East Fork of the Salmon River is still considered important spawning habitat for chinook salmon. This assessment is essentially the same as discussed in the Model Watershed Plan, Chapter 6, which states that the East Fork from mouth to Herd Creek has good bank stability, but needs improvement in streamside vegetative cover and spawning/incubation areas (page 6-5), and the East Fork from Herd Creek to Germania Creek has approximately 70% bank stability (which would be equivalent to a fair to good rating), that improvement is needed in streamside vegetative cover and bank stability (especially on private land), and spawning/incubation areas are limited by fines in the gravel, which are greater than 20%.

25-12: Like mineral development, livestock grazing is a type of use that does not produce direct beneficial impacts to other resources and programs, such as soils, water, and vegetation. However, the BLM does acknowledge the beneficial impacts of livestock grazing to the local economy (see PRMP, Chapter 3, Economy and Society). The PRMP attempts to balance multiple renewable and non-renewable "consumptive" uses (grazing, minerals, timber harvest) with maintenance or improvement of the basic resources which sustain renewable consumptive uses (vegetation, soils, water). Livestock grazing can be managed to allow continued use of the grazing resource without damaging other resources or precluding other uses (such as recreation). Flexibility and innovation in livestock grazing management are provided for in the PRMP through the potential application of knowledgeable and reasonable practices (see PRMP, Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #4).

Letter No. 26



January 3, 1997

Ms. Kathe Rhodes
RMP Coordinator
Salmon Field Office
Bureau of Land Management
Route 2, Box 610
Salmon, Idaho 83467

Dear Kathe:

Happy New Year! I have (finally) gotten time to read the Challis Draft Resource Management Plan and EIS, and would like to compliment you on a job well done. The document, for the most part, is thorough and well prepared. I would not expect that you would receive many adverse comments to the document.

1 Of the alternatives presented, I agree that Alternative 2 should be the preferred alternative. I believe that the balance desired is achieved, although there will be a reduction in some present services; it appears that the reduction is necessary to improve range health and future services.

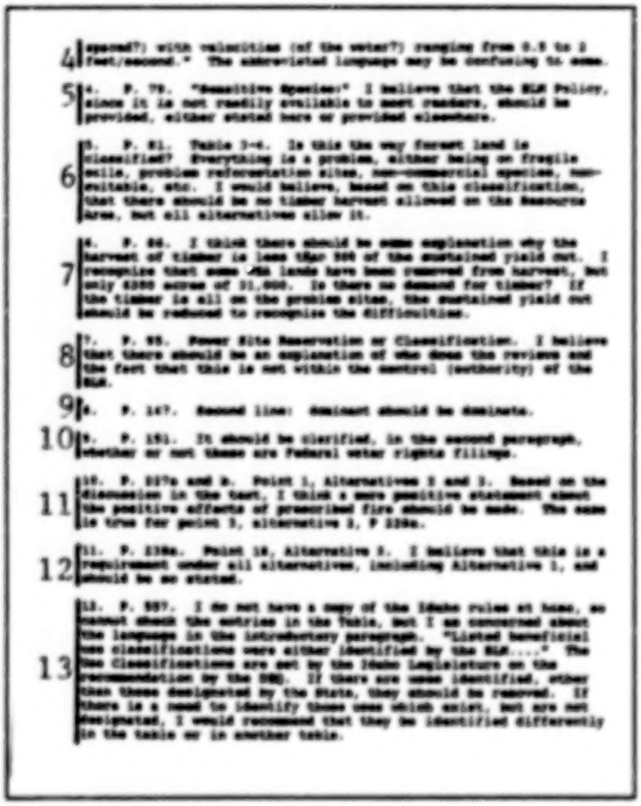
With that introduction and statement of support, I would like to point out some minor concerns and editorial comments:

2 1. P. 27. Alternative 3, Wild and Scenic Rivers, is it 5 or 6 segments?

3 2. P. 60. I am surprised at the length and detail of the discussion on the Fort Hall Reservation, since it is so far from the Challis Resource Area. I understand that the Tribe can use the resources of the area, and that some discussion of the Tribe characteristics has relevance, but it seemed that it was excessive for the RMP. I would not edit it for the final, however, since it does not hurt anything, other than change the focus of the document, for a few pages, many miles to the south.

4 3. P. 76. In the section Factors Affecting Fisheries Habitat and Production, the discussion should have been more oriented to the less scientific reader. At a minimum, substrate embeddedness should have been defined in the Glossary. For the less scientific reader, "gravels (0).25 to 2.5 inches (in diameter,

Letter No. 26 *continued*



4 speed?) with velocities (of the water?) ranging from 0.5 to 2 feet/second." The abbreviated language may be confusing to some.

5 4. P. 79. "Sensitive Species:" I believe that the BLM Policy, since it is not readily available to most readers, should be provided, either stated here or provided elsewhere.

6 5. P. 81. Table 3-4. Is this the way forest land is classified? Everything is a problem, either being on fragile soils, problem reforestation sites, non-commercial species, non-suitable, etc. I would believe, based on this classification, that there should be no timber harvest allowed on the Resource Area, but all alternatives allow it.

7 6. P. 86. I think there should be some explanation why the harvest of timber is less than 50% of the sustained yield cut. I recognize that some [illegible] lands have been removed from harvest, but only 4200 acres of 31,000. Is there no demand for timber? If the timber is all on the problem sites, the sustained yield cut should be reduced to recognize the difficulties.

8 7. P. 95. Power Site Reservation or Classification. I believe that there should be an explanation of who does the reviews and the fact that this is not within the control (authority) of the BLM.

9 8. P. 147. Second line: dominant should be dominate.

10 9. P. 151. It should be clarified, in the second paragraph, whether or not these are Federal water rights filings.

11 10. P. 227a and b. Point 1, Alternatives 2 and 3. Based on the discussion in the text, I think a more positive statement about the positive affects of prescribed fire should be made. The same is true for point 3, alternative 3, P 228a.

12 11. P. 228a. Point 10, Alternative 3. I believe that this is a requirement under all alternatives, including Alternative 1, and should be so stated.

13 12. P. 337. I do not have a copy of the Idaho rules at home, so cannot check the entries in the Table, but I am concerned about the language in the introductory paragraph. "Listed beneficial use classifications were either identified by the BLM...." The Use Classifications are set by the Idaho Legislature on the recommendation by the DEQ. If there are some identified, other than those designated by the State, they should be removed. If there is a need to identify those uses which exist, but are not designated, I would recommend that they be identified differently in the table or in another table.

BLM Response to Letter No. 26

26-1: Your preference for Alternative 2 is noted.

26-2: Under Alternative 3, five segments are found eligible and an eligibility determination is deferred on one additional segment, for a total of 6 segments. Please note that an eligibility determination on East Fork Salmon River "B" (EF-01b) was made in the PRMP (see PRMP, Wild and Scenic Rivers).

26-3: Information about the Fort Hall Indian Reservation was included at the request of the Shoshone-Bannock tribes to inform readers that the Tribes have made historic use of, and have a current social-economic interest in, the Challis Resource Area. The description of the Reservation was prepared to parallel the level of detail given in the description of the Lemhi County-Custer County area. This discussion of the affected environment was an essential first step in completing an analysis of impacts to tribal treaty rights and the Reservation economy and society.

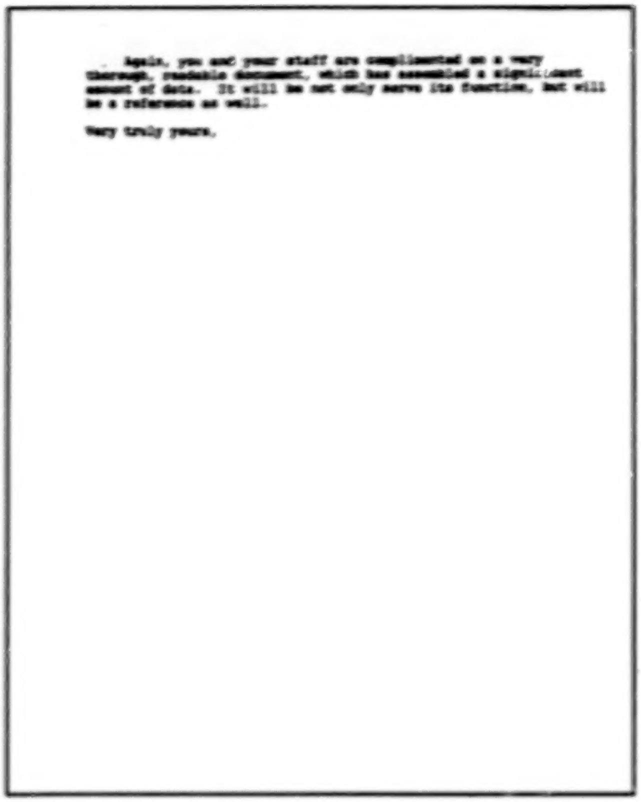
26-4: Substrate embeddedness was not defined in the glossary; however, cobble embeddedness, which is essentially the same as substrate embeddedness, was defined. A cross-reference for substrate embeddedness has been added to the Glossary for the PRMP/FEIS.

The sentence you describe on page 76 should have been written as follows: "Spawning habitat for resident trout consists of gravels .25 to 2.5 inches in diameter, with water velocities ranging from 0.5 to 2 cubic feet per second." The PRMP includes this correction.

26-5: The current BLM policy on sensitive species as reflected in BLM manual section 6840 (Release 6-116; 9/16/88) is that the BLM shall carry out management, consistent with the principles of multiple use, for the conservation of sensitive species and their habitats, and shall ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered. Reference to manual section 6840 is noted in the DRMP on pages 74, 129, and 162. Copies of this policy would be available to readers upon request.

26-6: The Timber Production Capability Classification system is used for all BLM forested land in Idaho, and is outlined at length in a supplement to BLM Manual Section 5251 (Release No. 5-10; 8/15/90). Some terms in the classification system (e.g., non-commercial species) indicate the site should be managed as woodland rather than commercial forest land. Other terms in the classification system (e.g., "problem reforestation site") point out various management considerations which should be taken into account when managing lands already classified as commercial forest lands. The Timber Production Capability Classification system's "problem site" classification was designed to alert forest managers to

Letter No. 26 *continued*



Again, you and your staff are complimented on a very thorough, readable document, which has assembled a significant amount of data. It will be not only serve its function, but will be a reference as well.

Very truly yours,

BLM Response to Letter No. 26 *continued*

potential difficulties in timber management so that such issues could be identified at the activity planning stage, rather than at or after project implementation. This would ensure that measures could be incorporated into projects that would eliminate or minimize such problems. For example, a site with the "Heat and Drought" classification would use drought resistant lodgepole pine planting stock as opposed to Douglas-fir, and harvesting would seek to maximize shade patterns during the hottest period of the day.

26-7: (a) Although there is a demand for timber in the Challis RA, the sustained yield level estimate discussed on DRMP page 86 is higher than actual timber harvest for several reasons. First, forest products are not to be removed from Wilderness Study Areas (WSAs) currently under interim management guidelines (approximately 6,209 acres of commercial forest land) (Interim Management Policy for Lands Under Wilderness Review (7/5/95); p. 43). However, forest lands in the WSAs were included in the sustained yield level for Alternative 1 (existing management). Not harvesting in WSAs and moving the same harvest level to the remaining commercial forest land in the Challis RA would result in timber harvest significantly above the sustainable level on the non-WSA commercial forest land. To correct this problem, the sustained yield average described for Alternative 2 (and in the PRMP) removes forest lands in existing WSAs from the commercial timber base. Second, the sustained yield estimate for Alternative 1 is believed to be high because of the way it was calculated. All of Eastern Idaho BLM land was aggregated for the cut calculation, and most of the land designated as commercial forest land was higher in productivity than the Challis RA's forest lands. As a result, an elevated cutting level was likely projected on the Challis RA. For this reason the Challis RMP proposes to conduct an intensive forest inventory within 10 years. Third, conflicting resource values and issues may reduce the amount of commercial forest lands which can be made available for timber harvest in a given year. And fourth, until recently (1996) the Salmon Field Office's forest resources staff needed to spend most of their time on reforestation efforts in previously harvested sites which had inadequate regeneration.

(b) Problem site classifications ideally are reflected in the long term sustained yield harvest level. However, given the current situation discussed above regarding WSAs and harvest level calculation methods, problem reforestation and fragile site classifications may not be accurately reflected in the sustained yield level for Alternative 1. This is yet another reason for a conservative approach to timber harvest in the Challis RA until intensive inventories are completed.

26-8: Under section 204 (a) of the Federal Land Policy and Management Act of 1976, the Secretary of the Interior is authorized to make, modify, extend, or revoke withdrawals. Field offices of the BLM analyze withdrawal proposals and make review recommendations to the Secretary. Clarification of the review process for power site classification and reservation withdrawals has been added to the PRMP/FEIS.

26-9: This typographical error has been corrected in the PRMP/FEIS.

26-10: The text has been clarified in the PRMP/FEIS to specify that these water rights claims have been filed by the BLM. All water sources on public land administered by the BLM were claimed under a state law basis (i.e., permit and license for beneficial use). In addition, all springs and waterholes on public land were reserved under Federal law by Public Water Reserve #107, dated 1926. Under the water right filing procedures defined by the Snake River Basin Adjudication (SRBA Court), water rights on springs and waterholes were filed having dual basis (i.e., being claimed both under State law as well as under Federal law).

26-11: The BLM feels the positive effects of prescribed fire are described adequately on p. 228, #3 and p. 232, #17. Many other factors besides fire can affect short and long term forest health and productivity (drought; disease/insect cycles; prescribed thinning, including timber harvest; historic vs. recent succession patterns *(i.e.*, fire suppression has altered site composition)). The positive effects of prescribed fire are not stated as an absolute "will occur" because many site-specific/event-specific factors will determine the nature of impacts from a given fire.

26-12: The analysis on p. 238, #18 refers to a management decision shown on pp. 380a/b (Management Concern: Water Quality, Goal 1, #2). In this decision the DRMP states that State approved BMPs for water quality must be followed under all alternatives. The different analysis shown under Alternative 1 reflects the fact that in the past (existing management), State approved BMPs were not available for many activities. Under Alternatives 2-5, State approved BMPs would be met or exceeded for all BLM authorized actions.

26-13 You are correct that the BLM cannot designate beneficial uses. The table on page 557 clearly differentiates between streams where the Idaho Department of Health and Welfare, Department of Environmental Quality has designated a beneficial use (labeled "D, S/T, P, U"), and those streams where the BLM has made a tentative identification of a beneficial use (labeled "x"). The BLM used the protocols in Idaho Department of Health & Welfare, Division of Environmental Quality, 1991, "Protocols for Conducting Use Attainability Assessments for Determining Beneficial Uses to be Designated on Idaho Stream Segments," *Water Quality Monitoring Protocols*, Report Number 7 to identify

BLM Response to Letter No. 26 *continued*

beneficial uses for stream segments. The BLM will continue to use these as water quality standards until such time as DEQ is able to assess all streams in the Resource Area for beneficial uses.

Letter No. 27

STATE OF IDAHO

DEPARTMENT OF AGRICULTURE

January 6, 1997

Ms. Kathy Rhodes, RMP Coordinator
Challis Resource Area
Salmon Field Office
Bureau of Land Management
Route 2, Box 610
Salmon, ID 83467

Dear Ms. Rhodes:

Attached are our comments to the May 1996 Challis Resource Area Draft Resource Management Plan and Environmental Impact Statement. We trust that our comments will be useful in preparing the final RMP. We appreciate the extra review time you provided in extending the comment period.

Sincerely

Patrick A. Takasugi
Director
Idaho Department of Agriculture

PAT:pc
encl.

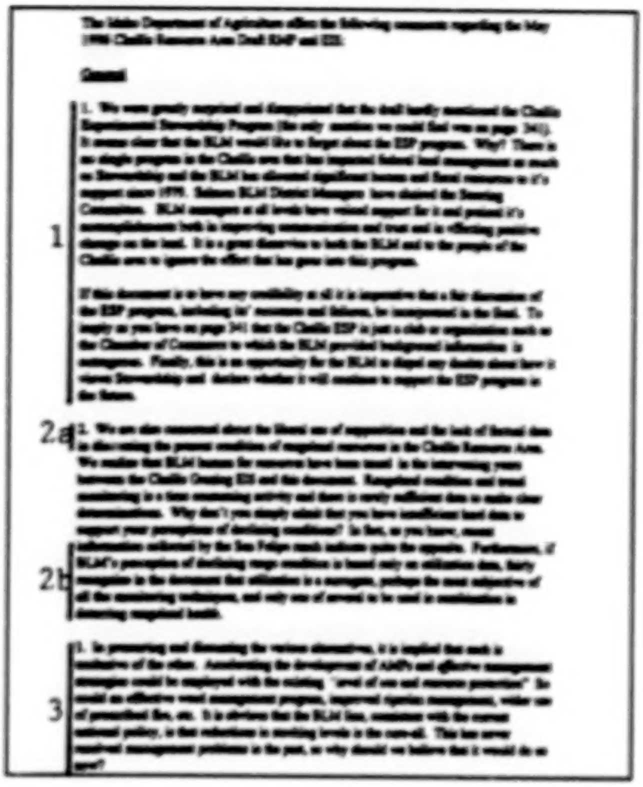
BLM Response to Letter No. 27

27-1: The BLM agrees that the Challis Experimental Stewardship Program (ESP) has played a valuable role in management of the public rangeland in the Stewardship area. The BLM disagrees, however, that it is "imperative" to elaborate further on that program in a narrative discussion in the Proposed RMP/Final EIS (PRMP/FEIS). ESP's involvement was summarized in the DRMP in Chapter 5 - Consultation, Coordination, and Consistency (p. 341). The successes and/or failures of ESP proposals (as well as all other management strategies) applied to the public lands in the Challis Resource Area are reflected in the present condition of the rangeland resources. The Experimental Stewardship Program Report of December 1984, and subsequent reports further elaborate on the results of ESP. The BLM continues to support all opportunities, including partnerships with ESP, to improve the range condition of lands under grazing permits within the planning area.

27-2: (a) Please see response 15-2.

(b) The BLM recognizes all the various components involved in determining rangeland health, and does not base assessments of range condition solely on livestock utilization data.

Letter No. 27 *continued*



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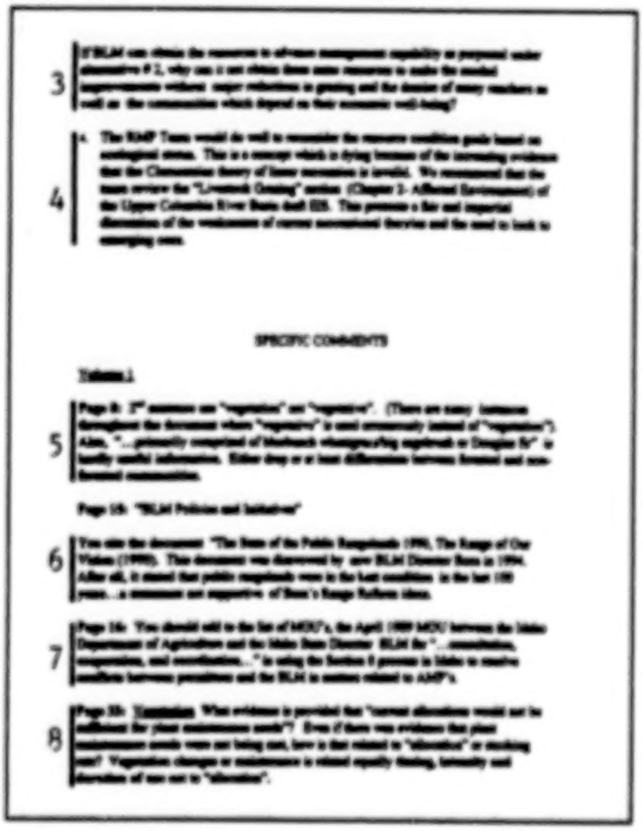
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BLM Response to Letter No. 27 *continued*

27-3: The Draft RMP alternatives are purposely designed to look different from each other; a Draft RMP presents a range of alternative Resource Management Plans. Please note that Alternative 2 and the Proposed RMP carry forward many actions which are valid existing management and were listed as decisions under Alternative 1. The Proposed RMP was developed in response to public comment and is based upon Alternative 2, yet incorporates some aspects of Alternatives 1, 3, 4, and 5. Alternative 2 does not propose major reductions in grazing. The estimated 25% reduction in average annual livestock use stated in the analysis of impacts (DRMP, p. 235a) depends on permittees' actions to improve livestock management and is not an absolute AUM reduction. This estimated reduction in actual use is the BLM's analysis of impacts to the livestock grazing program, assuming RMP actions to achieve needed improvements in resource conditions are implemented, and permittees make no substantial adjustments in their livestock management. These potential reductions (mainly in time on public lands) could be offset by permittee actions to manage livestock (e.g., riding, salting, fencing).

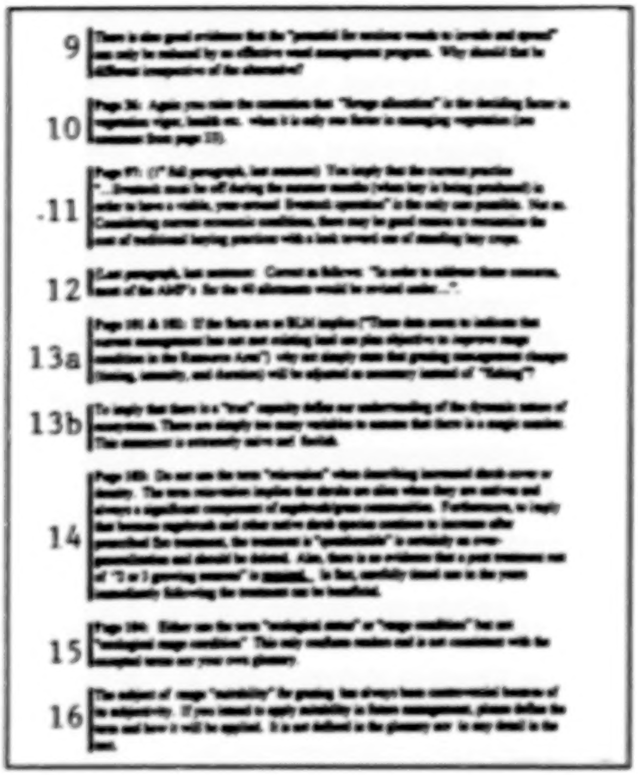
27-4: The BLM agrees there is an on-going debate over the proper model to use in describing vegetative succession. Unfortunately, disagreement continues as to which specific model should replace the old straight-line model proposed by Clements (1916) and others. In the absence of universal acceptance of an alternative model of succession, the Challis Resource Area is using the succession-retrogression model described by Dyksterhuis (1949), as it has been BLM, Soil Conservation Service (now the Natural Resources Conservation Service), and Forest Service policy to do so for many years. The BLM currently uses the concept of Potential Natural Community as described in the Soil Conservation Service (Natural Resources Conservation Service) site guides. Potential Natural Community for the Challis Resource Area is based on the local Custer-Lemhi soil survey (referred to in the DRMP, p. 119). Throughout the PRMP, however, are instances where an interdisciplinary team can vary from the goals and objectives shown in various decisions, provided there is a sound ecological basis for the variance.

27-5: This portion of the Summary has been revised in the PRMP/FEIS.

27-6: The BLM believes this is a valid and reasonable document to list as one of the existing BLM Policies and Initiatives used during preparation of the Challis RMP. The policy was not formally changed or abandoned by Director Baca or subsequent BLM Directors.

27-7: Omission of the April 1989 MOU between the Idaho Dept. of Agriculture and the Idaho State Director- BLM was an oversight; reference to the MOU has been listed in the PRMP/FEIS as a correction to the Draft RMP.

Letter No. 27 *continued*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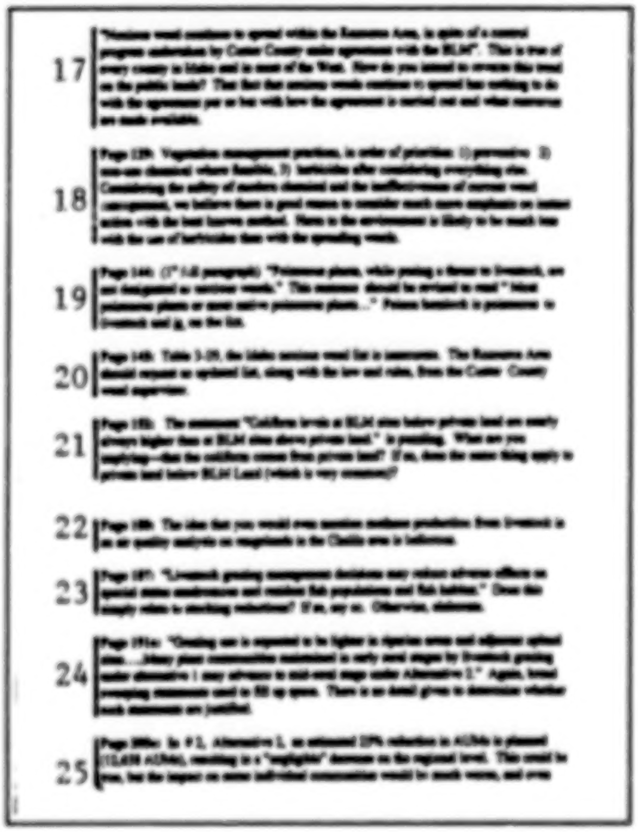
Letter No. 27 *continued*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BLM Response to Letter No. 27 *continued*

27-8: The absence of appropriate plant composition, age structure, and vigor on many upland sites within the Challis Resource Area indicates that plant maintenance needs are not being met under existing management. Review of current allocation levels indicates that the ratio of existing consumptive use is not properly balanced to provide for plant maintenance and watershed protection. (The Management Framework Plans indicate that 50% residual forage is essential for watershed protection and plant maintenance needs.) This current imbalance among plant use allocations may have led to some range sites and riparian systems within the Resource Area exhibiting a static or downward trend. The DRMP analyzes the effects of vegetative allocations in Chapter 4, pages 191a (#6); 278a (#1 and 2); and 279a (#5, 6 and 7). In Chapter 3, forage allocation and rangeland condition and trend are discussed on pages 99 and 100.

The BLM agrees that the factors affecting plant maintenance are related to the timing, duration, and intensity of grazing use. However, plant maintenance is only one component of the residual plants' overall benefits to the water and energy cycles. Litter, cover, microbiotic crust, and other components enhance the watershed's ability to resist erosion, allowing sites to retain water available for plant growth. Static to downward trends on range sites indicate to land managers that some components essential to rangeland health are either not present, and/or that those components which are present are not functioning to their potential. The PRMP proposes a variety of utilization and residual herbaceous material requirements to provide for not only plant maintenance, but also watershed health (increased cover) and riparian function (increased hydric species).

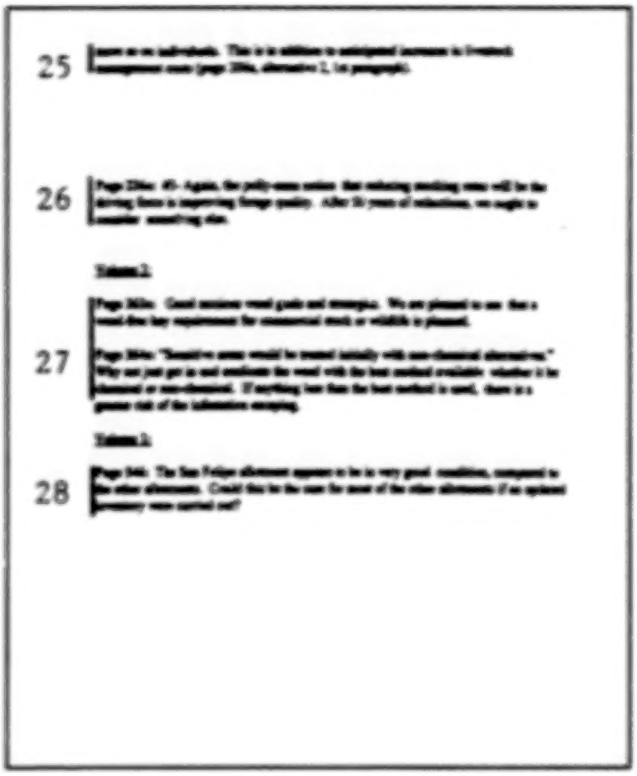
27-9: The potential for noxious weeds to invade and spread does not vary by "action" alternative; Alternatives 2 through 5 propose an effective weed management program. Existing management (Alternative 1) is not effective.

27-10: Please see response 27-8 above.

27-11: The PRMP/FEIS contains revised wording of the sentence mentioned in your comment.

27-12: The PRMP/FEIS contains clarified wording of the sentence you are concerned about.

27-13: (a) The "action" alternatives (Alternatives 2 through 5) all propose changes in livestock grazing management in order to improve resource conditions. These management decisions are described in Volume 2 - Description of Alternatives, rather than in the Affected Environment. The analysis of impacts for Alternative 1 provides details to support the BLM's statement that current grazing management has not met land use plan objectives to



improve range condition (see DRMP, pp. 278-280, #1-12 and p. 281, #16-18).

(b) Alternative 2 does not propose a "true" capacity, but rather ties stocking levels to resource condition objectives for various resources: aquatic habitat, riparian condition, residual cover and food for wildlife species, etc.

27-14: Portions of the paragraph you commented on have been revised in the PRMP/FEIS in response to your comments.

27-15: The PRMP/FEIS has been revised in response to your comments.

27-16: No PRMP decisions identify or require the use of suitability criteria. A definition of "suitable ranges" has been added to the Glossary for the PRMP/FEIS.

27-17: The PRMP proposes an integrated weed control program which is expected to be effective through the efforts of all partners named in existing and future cooperative agreements (see PRMP, Noxious Weed Infestations).

27-18: (a) The Challis Draft RMP incorporates the FEIS Vegetative Treatment on BLM Lands in 13 Western States by reference (DRMP, p. 129), and must adhere to its priorities and Standard Operating Procedures.

(b) The Draft RMP action alternatives (Alternatives 2 through 5) and the PRMP propose integrated pest management, and allow for chemical control; the RMP contains this flexibility to use a mix of weed control strategies in order to minimize adverse environmental impacts and maximize the effectiveness of noxious weeds treatments.

27-19: The sentence you are concerned about has been revised in the PRMP/FEIS.

27-20: The noxious weed list depicted in Table 3-29 has been updated in the PRMP/FEIS.

27-21: Generally, the combination of pasture irrigation and livestock along streams and rivers on private land result in higher coliform levels downstream. Livestock on privately owned lands are often concentrated in pastures adjacent to streams, and irrigation runoff from the pastures delivers fecal matter into streams, increasing fecal coliform counts downstream. This happens regardless of where BLM land is located. Fecal coliform levels in streams flowing through and downstream of public land are generally lower than coliform levels downstream of private land. Livestock and wildlife on public lands are normally dispersed over a larger area, often farther away from rivers and streams, with no irrigation runoff to increase input of fecal matter to streams.

27-22: This topic was discussed briefly in the Draft RMP to address concerns from readers who may envision a "feedlot" environment and might view methane production as an air quality issue.

27-23: This analysis point purposely says "livestock grazing management decisions" (*i.e.*, plural) because it summarizes impacts from many management decisions listed under Management Concern: Livestock Grazing (see DRMP, Volume 2). Although livestock grazing management within the Herd Creek and Road Creek watersheds could include stocking rate reductions in some cases, the management decisions and analysis do not state or imply that stocking rate reductions are the BLM's preferred grazing management option.

27-24: This analysis is based on impacts from all the Draft RMP decisions shown under Management Concern: Livestock Grazing (pp. 350-355) and Management Concern: Upland Watershed (pp. 367-368).

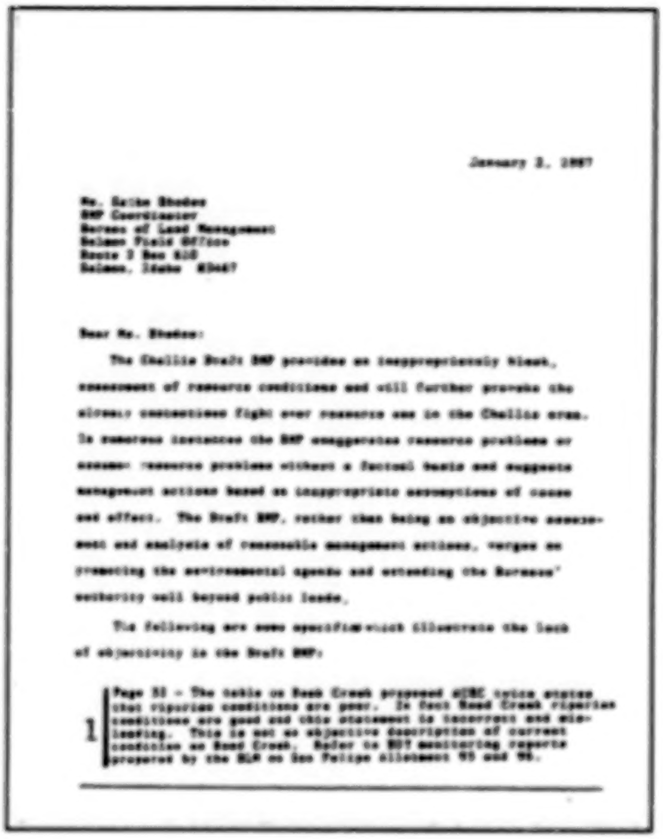
27-25: The following information is in response to your comment that "the impact on some individual communities would be much worse" than the impacts to the regional economy. Table 4-2 (DRMP p. 211) displays the estimated quantitative impacts to the agriculture sector, by county, for Alternative 2. Because the economic model estimated only 11 jobs decrease would occur in Custer County, the cell size is too small to analyze for each of the 4 subregions in that county. However, the BLM can estimate a "worst case" impact to the subregion most dependent on agriculture: If, hypothetically, the subregion most dependent on agriculture in Custer County (*i.e.*, the Pahsimeroi subregion, where 84% of subregion's employment and 96% of earnings are in the agriculture sector - see Appendix B, Items 2 and 4) lost ALL of those 11 jobs, this would be a 16% decrease in employment (11 of 68 jobs) and a 9% decrease in earnings ($255,000 divided by $2,823,000). Under this hypothetical situation, the economic impacts to the Pahsimeroi subregion would be greater than the impacts to the regional economy. However, it is highly unlikely all economic impacts would be in one subregion, since the regional economy is interconnected among subregions.

27-26: Please note that the Draft RMP proposes to establish proper stocking levels in the context of revised grazing management, and not as an isolated action. Proper stocking rates and changes in livestock grazing management would both contribute to improved vegetation composition and vigor and improved forage quality.

27-27: (a) Your support for the noxious weed goals and strategy are noted. (b) Chemical eradication of target weed species is not always appropriate because these areas are sensitive. In many cases, chemicals cannot be used in these areas because of legal label restrictions.

27-28: Please see response 15-2, paragraph 2.

Letter No. 28



January 3, 1997

Ms. [illegible] Rhodes
RMP Coordinator
Bureau of Land Management
Salmon Field Office
Route 2 Box 610
Salmon, Idaho 83467

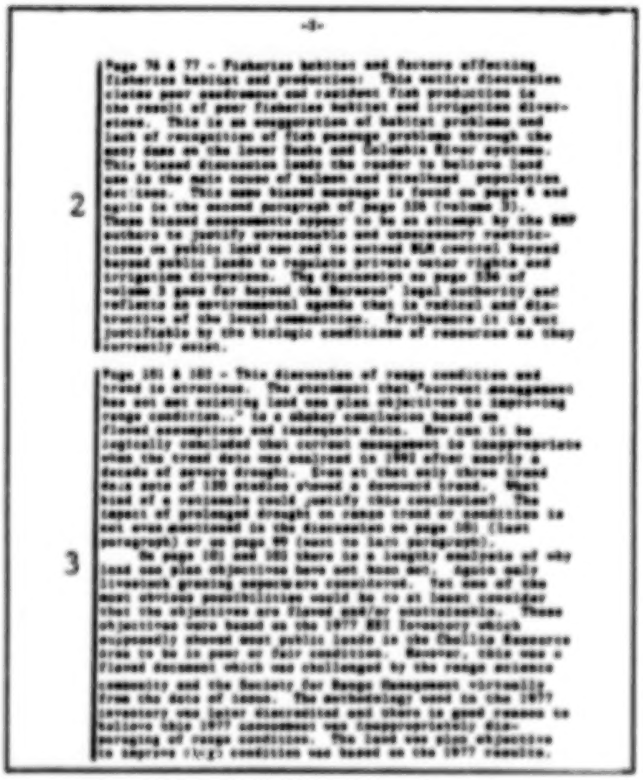
Dear Ms. Rhodes:

The Challis Draft RMP provides an inappropriately biased, assessment of resource conditions and will further provoke the already contentious fight over resource use in the Challis area. In numerous instances the RMP exaggerates resource problems or assumes resource problems without a factual basis and suggests management actions based on inappropriate assumptions of cause and effect. The Draft RMP, rather than being an objective assessment and analysis of reasonable management actions, verges on promoting the environmental agenda and extending the Bureaus' authority well beyond public lands.

The following are some specifics which illustrate the lack of objectivity in the Draft RMP:

1 Page 52 - The table on Road Creek proposed ACEC twice states that riparian conditions are poor. In fact Road Creek riparian conditions are good and this statement is incorrect and misleading. This is not an objective description of current condition on Road Creek. Refer to 1997 monitoring reports prepared by the BLM on San Felipe allotment 95 and 96.

Letter No. 28 *continued*



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2 Page 76 & 77 - Fisheries habitat and factors affecting fisheries habitat and production: This entire discussion claims poor anadromous and resident fish production is the result of poor fisheries habitat and irrigation diversions. This is an exaggeration of habitat problems and lack of recognition of fish passage problems through the many dams on the lower Snake and Columbia River systems. This biased discussion leads the reader to believe land use is the main cause of salmon and steelhead population declines. This same biased message is found on page 8 and again in the second paragraph of page 536 (volume 3). These biased assessments appear to be an attempt by the RMP authors to justify unreasonable and unnecessary restrictions on public land use and to extend BLM control beyond beyond public lands to regulate private water rights and irrigation diversions. The discussion on page 536 of volume 3 goes far beyond the Bureaus' legal authority and reflects an environmental agenda that is radical and destructive of the local communities. Furthermore it is not justifiable by the biologic conditions of resources as they currently exist.

3 Page 101 & 102 - This discussion of range condition and trend is erroneous. The statement that "current management has not met existing land use plan objectives to improving range condition..." is a shaky conclusion based on flawed assumptions and inadequate data. How can it be logically concluded that current management is inappropriate when the trend data was analyzed in 1993 after nearly a decade of severe drought. Even at that only three trend data sets of 130 studies showed a downward trend. What kind of a rationale could justify this conclusion? The impact of prolonged drought on range trend or condition is not even mentioned in the discussion on page 101 (last paragraph) or on page 99 (next to last paragraph).

On page 101 and 102 there is a lengthy analysis of why land use plan objectives have not been met. Again only livestock grazing impacts were considered. Yet one of the most obvious possibilities would be to at least consider that the objectives are flawed and/or unattainable. These objectives were based on the 1977 SVI inventory which supposedly showed most public lands in the Challis Resource Area to be in poor or fair condition. However, this was a flawed document which was challenged by the range science community and the Society for Range Management virtually from the date of issue. The methodology used in the 1977 inventory was later discredited and there is good reason to believe this 1977 assessment was inappropriately disparaging of range condition. The land use plan objective to improve (e.g.) condition was based on the 1977 results.

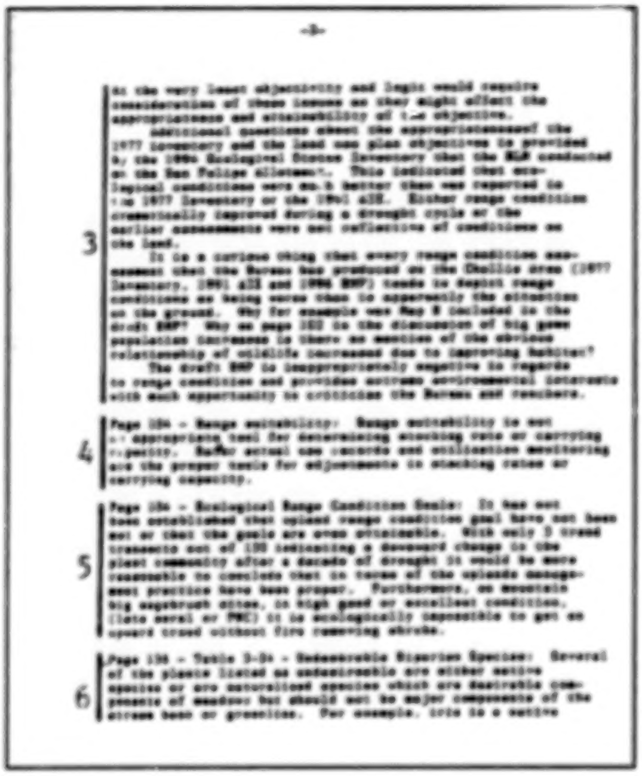
BLM Response to Letter No. 28

28-1: Table 3-2 on page 52 reflected a subjective assessment of conditions on the ground as they existed at the time the Draft RMP was started in approximately 1991. The BLM acknowledges conditions have improved along Road Creek since that time; the PRMP has been revised to reflect this fact. Because the Road Creek watershed was not designated as an ACEC in the PRMP, the portion of the document describing Relevance and Importance within this watershed has been deleted. For your information, ongoing riparian functional condition assessments were last displayed in the 1997 riparian report for the Challis Resource Area, which listed the following riparian conditions for Road Creek: 35% in proper functioning condition and 65% functional at-risk, with an upward trend.

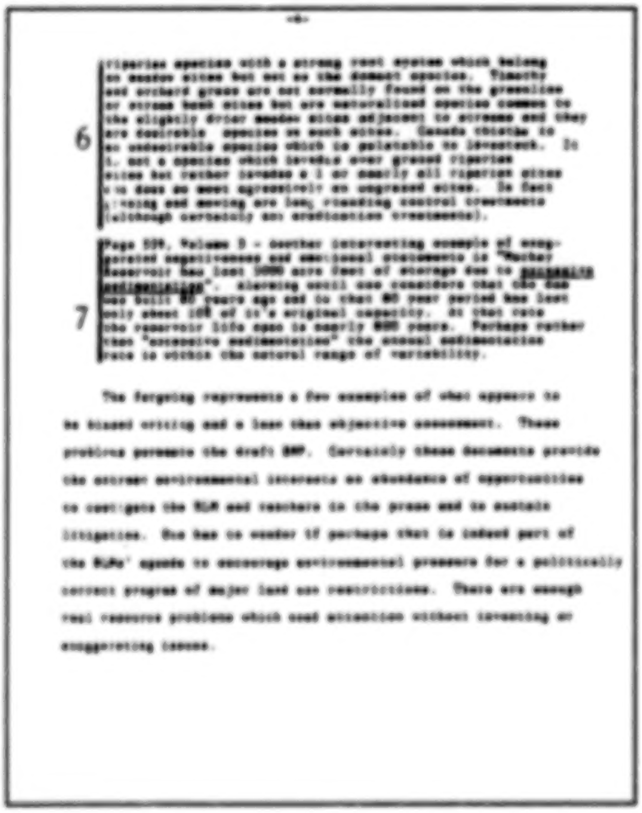
28-2: (a) The Affected Environment describes the condition of affected resources within the planning area, which in this case encompasses the Challis Resource Area. Although actions on public lands within the Challis RA may impact downstream waters, BLM cannot manage migration and adult habitat for anadromous species once they leave the public lands for waters in the Columbia River system and the ocean. BLM does indicate that factors beyond the Challis RA limit anadromous fish survival (see DRMP, p. 77, paragraph 2). That is why interagency and Northwest regional cooperation which addresses multiple factors in anadromous fish survival is necessary. The Challis Draft RMP Affected Environment must, however, describe resource conditions and uses relevant to fisheries habitat conditions of waters within RA boundaries. The Affected Environment describes conditions on non-public lands to provide a context for a cumulative effects analysis. The DRMP presentation on irrigation diversions in Appendix C: Fisheries, Item 8, page 536; the Appendix Table C-3 listing Irrigation Diversion Structures on Public Lands (p. 537); and Appendix C, Item 4, pages 520 and 521 which describes fisheries habitat condition along privately-owned as well as BLM-administered segments, are all included in the document to provide sufficient background to analyze cumulative effects.

(b) Irrigation diversions, both unscreened and screened, are a major limiting factor for fisheries management, for the reasons stated on page 536. Table C-3 on page 537 lists forty-three unscreened diversions that result in either a reduced flow, or a dry stream channel on public lands. The BLM recognizes that Snake and Columbia river dams increase mortality rates of migrating anadromous fish; however, data show substantial mortality of outmigrating steelhead and chinook smolts occurs before they reach the uppermost dam, Lower Granite. The National Marine Fisheries Service and Idaho Department of Fish and Game estimate that only 21% of spring/summer chinook released from the Sawtooth Fish Hatchery and 37% of spring/summer chinook released from the Pahsimeroi Fish Hatchery reach Lower Granite Dam (NMFS, 1997). The

Letter No. 28 *continued*



Letter No. 28 *continued*



BLM Response to Letter No. 28 *continued*

BLM is an active member of the Model Watershed Program, as are several landowners, state agencies, and other federal agencies. This group has collaborated on several projects designed to restore and enhance both native and anadromous fish habitat, mostly through diversion re-design, consolidation, and screening.

28-3: (a) The section describing Rangeland Monitoring and Evaluation has been revised in the PRMP to incorporate more current information. Inventories and monitoring are proposed in the PRMP to update or complete condition and trend information for the various resources in the Challis Resource Area. Please also see response 15-2.

(b) The BLM agrees that drought and other climate-related impacts should also have been listed as a reason for lack of resource improvement. Chapter 3 has been revised in the PRMP to acknowledge climate as an important factor in resource condition and trend.

(c) The objective of the RMP is to improve range condition where it is presently unsatisfactory. The PRMP proposes that livestock grazing management changes (e.g., application of use standards, seasons of use, stocking levels) will be determined through monitoring and evaluation of those areas currently in less than satisfactory condition (see PRMP, Livestock Grazing, Goal 1, #2 and 6).

28-4: The BLM agrees that range suitability alone is not an appropriate tool for determining stocking rate or carrying capacity. BLM's preferred method to monitor and adjust stocking rates is through utilization pattern mapping, along with implementation of utilization standards for key livestock forage species. PRMP decisions under Livestock Grazing, Goal 1, #2, 6, 7 specify that levels of livestock use will be determined for various allotments based upon monitoring.

28-5: Livestock Grazing, Goal #1 states that 40% of uplands within the Resource Area should be Late Seral to PNC, meaning within the range of these high seral states. Livestock Grazing, Goal 1, #10 allows an interdisciplinary team the flexibility to determine if some other Desired Plant Community would better meet the goals of rangeland health. The BLM believes the RMP's goal for rangeland condition is realistic and obtainable, as indicated by recent improvement in upland conditions in the Mountain Springs (San Felipe) Allotment and favorable trends in the Herd Creek and Warm Springs allotments. These positive results were obtained by modifying livestock management actions and applying use standards, while still providing for significant livestock grazing.

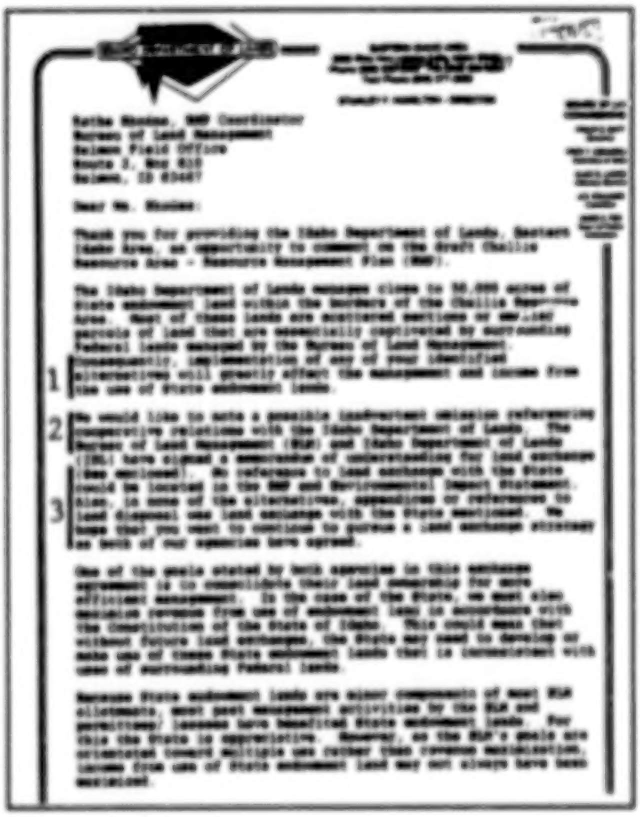
28-6: Undesirable characteristics of some riparian species, as depicted in Table 3-24, are discussed in the last paragraph on page 131: "Other common riparian species are classified

BLM Response to Letter No. 28 *continued*

as 'undesirable' because they are indicators of reduced functioning or they replace species with high functional values." In contrast, desirable riparian species are those with extensive root systems that typically comprise the majority of the hydric plant species found adjacent to the stream zone in highly functional systems. These species are the most resilient to water flow and hold streambanks together during peak flows. Those species on the list of undesirable riparian species do not have the same beneficial characteristics; many are introduced species, and the intent of Table 3-24 was to list plants with characteristics that are less than desirable for **riparian** health and function.

28-7: BLM agrees that the term "excessive" as it relates to the sedimentation rate of Mackay Reservoir is not appropriate. As you point out, the annual sedimentation rate for this reservoir appears to be within the natural range of variability. The paragraph has been dropped from the PRMP.

Letter No. 29



BLM Response to Letter No. 29

29-1: Under the PRMP, livestock grazing on State lands within the Challis RA boundaries should be able to continue.

29-2: The MOU you mention was inadvertently omitted from Table 1-1 in the Draft RMP. Reference to the MOU has been included in the Proposed RMP/Final EIS in the section titled "Corrections to the Draft RMP/EIS."

29-3: Please see response 5-2.

29-4: Your preference of alternatives is noted. Please notice, however, that in addition to Alternative 1, Alternatives 2 and 3 also propose maintaining very near current AUM levels, at least for the short term and possibly longer. All five alternatives described in the Challis Draft RMP would make public lands available for exchange with the State of Idaho (see Challis Draft RMP/EIS, Volume 2, pp. 389a/b, #8). The Challis Proposed RMP would make approximately 36,915 acres of public lands available for exchange with the State of Idaho (see PRMP, Land Tenure and Access, Goal 2, #7).

29-5: The list of agencies noted in the Draft RMP/EIS on p. 335, paragraph 2, sentence 2 only refers to agencies which are "consulted periodically to supplement BLM data and information" and is not all inclusive ("such as..."). The third sentence in paragraph 2, p. 335 refers

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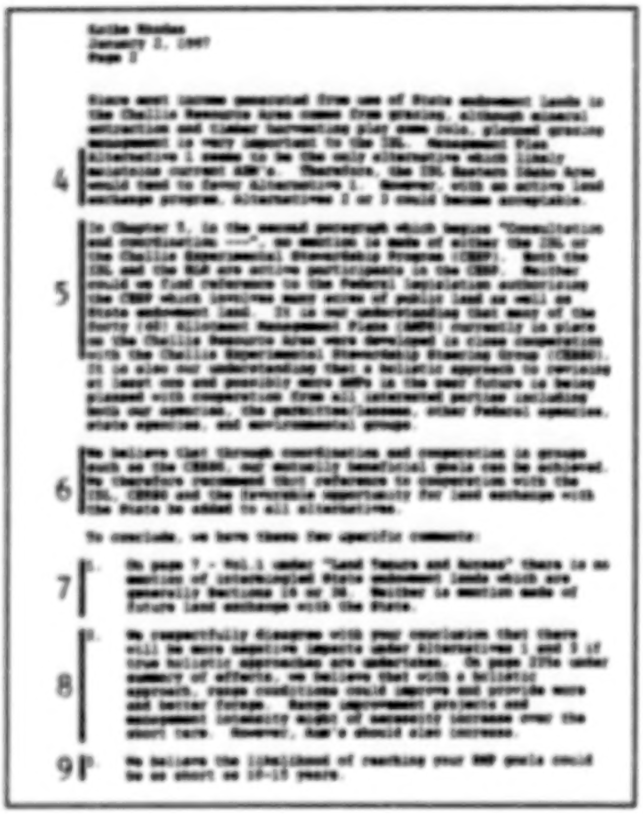
Letter No. 29 *continued*



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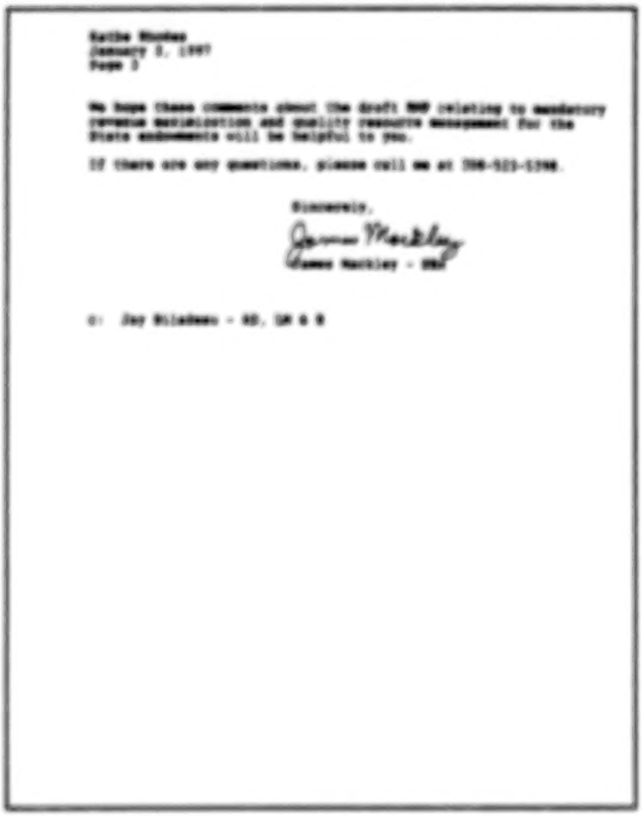


BLM Response to Letter No. 29 *continued*

to the BLM's formal agreements with other agencies, as listed in Table 1-1. Omission of the IDL/BLM Memorandum of Understanding has been noted (see response 29-2 above).

The Challis Experimental Stewardship Program (ESP) is specifically discussed on p. 341 of the Draft RMP/EIS. This discussion includes a reference to the Public Rangelands Improvement Act which authorizes the Challis ESP. The Challis Experimental Stewardship Steering Group (CESSG) is a sub-unit of the Challis ESP and may be considered to be included in any discussion of the Challis ESP.

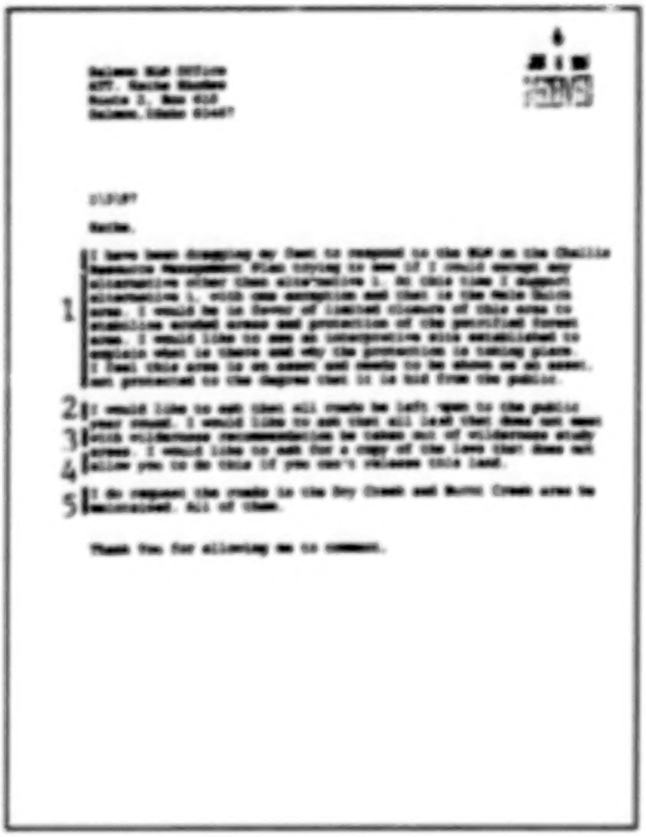
29-6: The Challis PRMP includes only one plan and does not restate alternative plans. References to IDL, CESP, and land exchange opportunities with the State are included in the PRMP as discussed in responses 29-2, 29-3, and 29-5 above.

29-7: The "Affected Environment" summary of the PRMP has been corrected to add a reference to intermingled State lands under the discussion of "Land Tenure and Access." Please note that an expanded discussion of State lands within the Challis Resource Area's boundaries was provided in the Draft RMP/EIS on p. 91, paragraph 3, and p. 92, Table 3-6. "Future land exchange with the State" was discussed in the Draft RMP/EIS in Volume 2, pp. 389a/b #8 (all five alternatives). This proposed management would be inappropriate to include in the summary of affected environment (existing condition) on p. 7.

29-8: The summary of impacts you refer to does not say that there will be negative impacts from Alternative 1 or 3. It states that the likelihood of reaching RMP range condition goals would be very slight under Alternative 1, and that the goals would take many years to achieve. Holistic approaches could be used in some instances to improve range conditions; however, under any alternative, the BLM does not expect that holistic approaches would be adopted widely enough to make a significant difference in the amount of range achieving RMP goals Resource Area-wide. Based on the analysis of impacts, the BLM still believes that the rate of improvement expected under Alternative 1 or 3 would not be as rapid as under any other alternative.

29-9: The BLM does not estimate a timeframe for overall completion of all goals in the RMP since most goals involve ongoing implementation (e.g., Cultural Resources, Goal 1). In addition, the time needed to achieve Proposed RMP goals which do set specific timeframes and/or imply a standard to be achieved (e.g., Riparian Areas, Goal 1) may be influenced by factors such as the date that a Record of Decision is signed, and staffing, budget, or program priorities identified by Congress, the Department of Interior, BLM Headquarters, or the BLM - Idaho State Office.

Letter No. 30



BLM Response to Letter No. 30

30-1: Your preference for Alternative 1 is noted. Your suggestions for management of the Malm Gulch area have been incorporated into the Proposed RMP (see PRMP, ACECs - Malm Gulch/Germer Basin ACEC, #4 and 9).

30-2: In general, the Proposed RMP limits motorized vehicle use to existing roads, vehicle ways, and trails throughout the Resource Area, in response to public concern about the impacts of off-road use on other resources. Most roads within the Resource Area would remain open to motorized vehicle use year long. To protect important resource values, a few roads would be designated "closed" to OHV use yearlong or limited seasonally (see PRMP, OHV Use).

30-3: Only Congress can designate wilderness or release from interim management areas that were placed under wilderness study by Congressional authority. The Federal Land Policy and Management Act of 1976 (FLPMA), Section 603(c) directed the Secretary of the Interior to report to the President on the wilderness suitability of lands managed by the Bureau of Land Management (BLM) by October 21, 1991.

The BLM's wilderness recommendations have been forwarded by the President to Congress. Until Congress acts on these recommendations, Section 603(c) further directs the BLM to continue to manage these WSAs in a manner that will not "impair the suitability of such areas for preservation as wilderness." Until designation or release, the BLM will manage these areas as directed in "Interim Management Policy And Guidelines For Land Under Wilderness Review" (BLM, 1995).

If Congress acts and some of the WSAs in the Challis Resource Area are released from wilderness review, those public lands would be managed according to the Proposed RMP decisions listed under WSAs- Management if Released from Wilderness Review.

30-4: The BLM sent you copies of the enabling acts of Congress that apply: The Wilderness Act of 1964 and The Federal Land Policy and Mangement Act of 1976. Pleasc also see response 30-3 above regarding the BLM's Wilderness policy.

30-5: As stated in the response to 30-2 above, most roads in the Challis Resource Area would remain open yearlong, including the roads in the Burnt Creek area. These open roads would be maintained in accordance with guidance described in the PRMP under Transportation, Goal 1.

Your preference for maintaining the Dry Creek Road is noted. However, the BLM has decided to carry forward the intent of the Draft RMP decision listed under Management Concern: OHV Use, Goal 1, #4, Alternative 2 (p. 434a), which closes the Dry Creek Road at T9N, R24E, Sec. 1,

BLM Response to Letter No. 30 *continued*

N 1/2. This decision was modified in the PRMP to indicate the road would be closed for safety reasons and to maintain primitive values (see PRMP, OHV Use Goal 1, #3). The Dry Creek Road and other BLM roads which are closed would not receive any maintenance.

Letter No. 31

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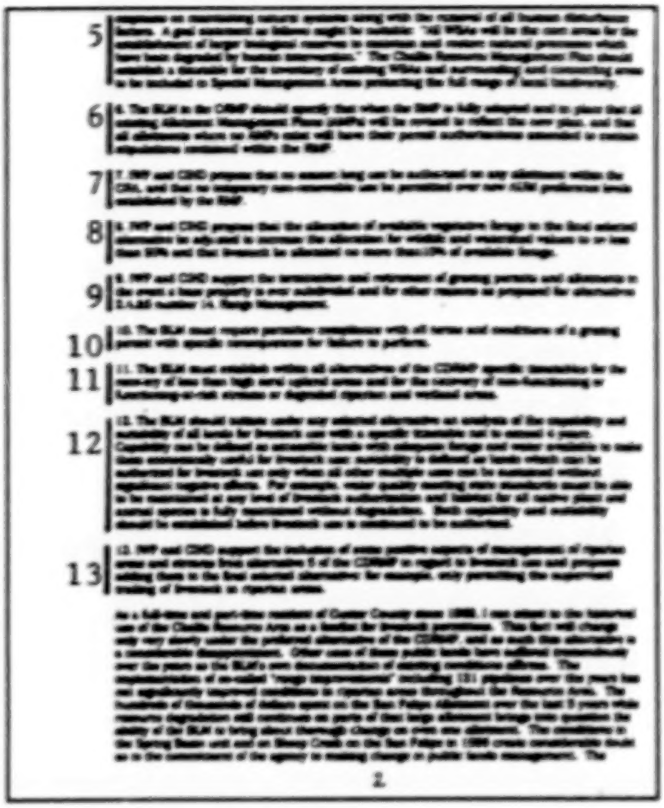
BLM Response to Letter No. 31

31-1: This choice reflects the importance of bluebunch wheatgrass to overall ecosystem health, and is appropriate for most Challis RA sites. Other species are used as key species, either singly or collectively, on non-bluebunch wheatgrass sites. Livestock Grazing, Goal 1, #7 (see PRMP) shows utilization levels for all key species by season; in some cases the standard for bluebunch wheatgrass is below 50%.

31-2: Your concerns were addressed in the Final EIS, Vegetation Treatment on BLM Lands in Thirteen Western States (USDI-BLM 1991) and the Northwest Area Noxious Weed Control Program Final EIS (USDI-BLM 1985, supplemented 1987). The Challis RMP will not duplicate these efforts.

31-3: The DRMP described existing data on nongame wildlife as "limited" for the 290 species of vertebrate non-game, furbearing, and predatory wildlife species that inhabit the RA. Appendix L (see PRMP/FEIS) describes the research studies, inventories, surveys and other data which pertain to nongame wildlife in the Challis Resource Area. The BLM agrees that additional information on the abundance and population trends of nongame species would be useful in the planning process. However, the BLM believes the data available are

Letter No. 31 *continued*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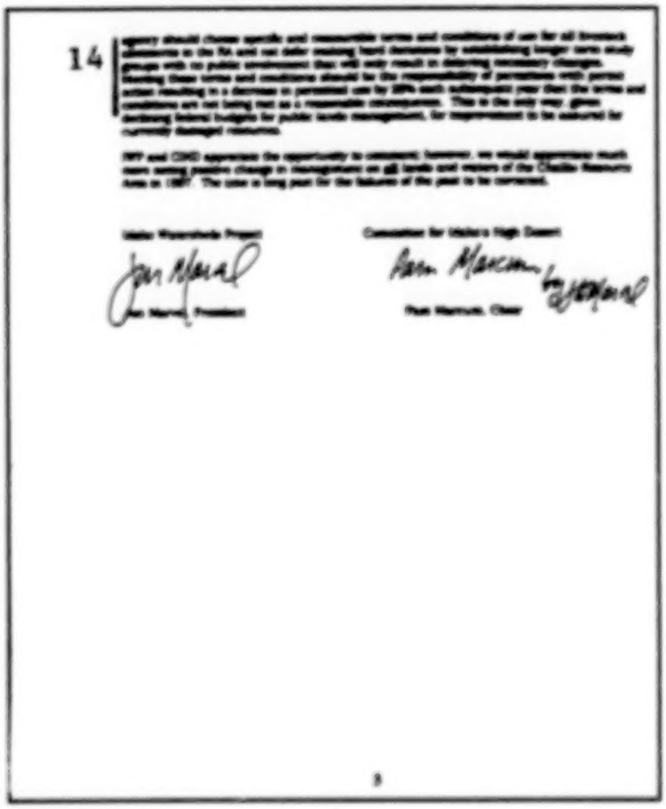

BLM Response to Letter No. 31 *continued*

adequate to select an alternative.

31-4: The BLM believes available fisheries data are sufficient to determine the environmental consequences of the alternatives. The USFWS and NMFS concurred with the BLM's analysis of "may affect, but not likely to adversely affect" for listed fish species in the CRA (bull trout, sockeye and chinook salmon, steelhead trout), for both the DRMP - Preferred Alternative and the PRMP.

31-5: Your opinions are noted. WSAs in the Challis RA, if released, would generally be managed to maintain existing values and uses, including biodiversity (see PRMP, WSAs - Management if Released from Wilderness Review, goal statement).

31-6: The PRMP has a decision to revise AMPs as needed, with priority outlined (see Livestock Grazing, Goal 1, #4). The specific terms and conditions of individual grazing permits will continue to be established under the discretion of the authorized officer, in accordance with 43 CFR 4130.3. Any terms or conditions deemed necessary to add to grazing permits will also be consistent with, and/or implement the decisions in the approved Challis RMP.

31-7: (a) If allotments can be grazed season long without exceeding the RMP's grazing criteria, the BLM believes resource conditions will continue to improve, and season long grazing will not be inappropriate. (b) Temporary nonrenewable use would be allowed only after related allotment objectives have been met (see PRMP, Livestock Grazing, Goal 1, #16).

31-8: Your opinion is noted.

31-9: Your opinion is noted.

31-10: The grazing regulations (43 CFR) contain penalties for non-compliance.

31-11: Timetables have been included in the PRMP where appropriate.

31-12: Your suggestions on capability and suitability analysis as defined in your comment are noted. However, the BLM does not feel an analysis of suitability or capability is appropriate. Please also see response 31-144.

31-13: The BLM believes proposed livestock management actions will enable the BLM to meet RMP goals for riparian improvement (see PRMP, Livestock Grazing, Goals 1 and 2; and Riparian Areas, Goal 1). Please also see Response 6-2.

31-14: PRMP actions such as stubble height and utilization

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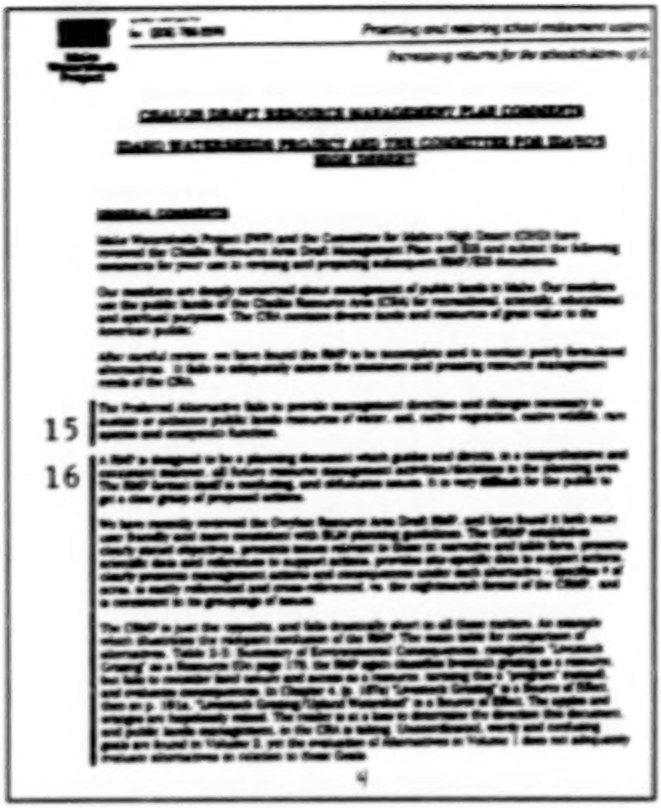

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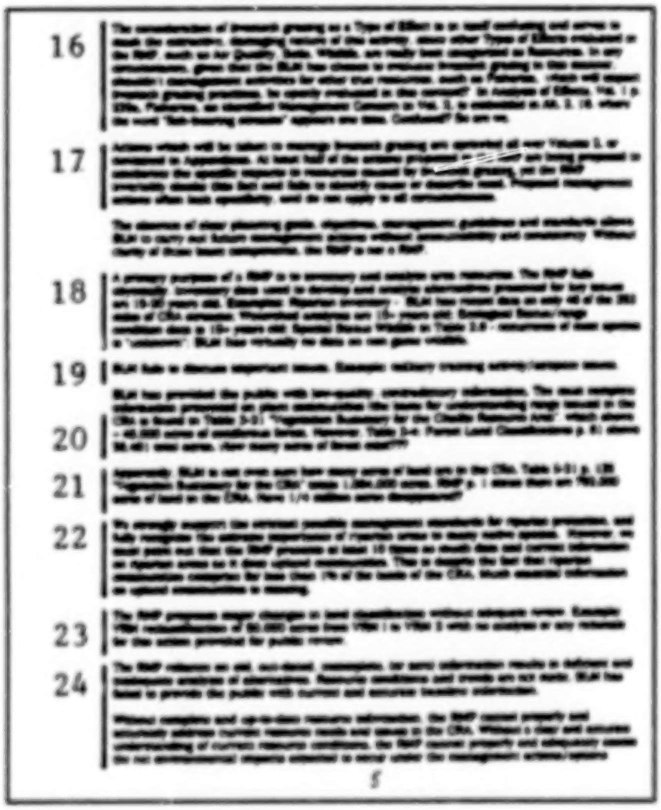
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BLM Response to Letter No. 31 *continued*

criteria will take effect upon signing of the Record of Decision for the approved RMP. Meeting these terms and conditions will be the responsibility of the grazing permittees (see response 31-10).

31-15: Your opinion is noted.

31-16: Your opinions are noted. (a) The PRMP describes Livestock Grazing as a land use, rather than a resource. (b) The impacts of resource and land use management activities on livestock grazing were analyzed in the DRMP (see pp. 235a-242a, including riparian/aquatic management analyzed on pp. 238a/b, #15-16).

31-17: Your opinions are noted.

31-18: Your comments are noted. Please see responses 12-1, paragraph 2; 15-2; 15-3; and 15-7(b).

31-19: This topic was not identified as a planning issue (see *Glossary*).

31-20: The two sets of numbers are based on two different inventories. The coniferous and juniper forest acreage in Table 3-21 (46,744 acres) is the result of independent range inventories conducted in each applicable planning unit. These inventories calculated forest land by soil mapping units. As a result, where trees grew outside of forest soil mapping units (which is quite common, particularly along ecotones), those trees were not counted as forest land. The total forest land acreage in Table 3-4 (58,461 acres) was based on all forest land (see definition: DRMP, p. 80) inventoried in 1984.

31-21: Table 3-21 has a footnote that explains the difference. The Big Lost-Mackay Draft EIS contained land in the Big Lost area of the Idaho Falls BLM district, which lies outside the boundary of the Challis Resource Area. The Challis Resource Area contains 792,567 acres of public land, which is the figure you will see used throughout the PRMP/FEIS.

31-22: Your comments are noted. The BLM believes the affected environment discussion of uplands provided in the PRMP (see Chapter 3: Forest Resources, Livestock Grazing, and Vegetation) provides a sufficient context for the analysis of environmental consequences.

31-23: The 50,000 acres you have referred to represent acreage along the Salmon River. Proposed management of these acres is not consistent with the BLM definition for VRM Class I (see Glossary: Visual resource management classes), so these public lands were moved into the more correct VRM Class II.

31-24: Please see response 31-18.

Letter No. 31 *continued*

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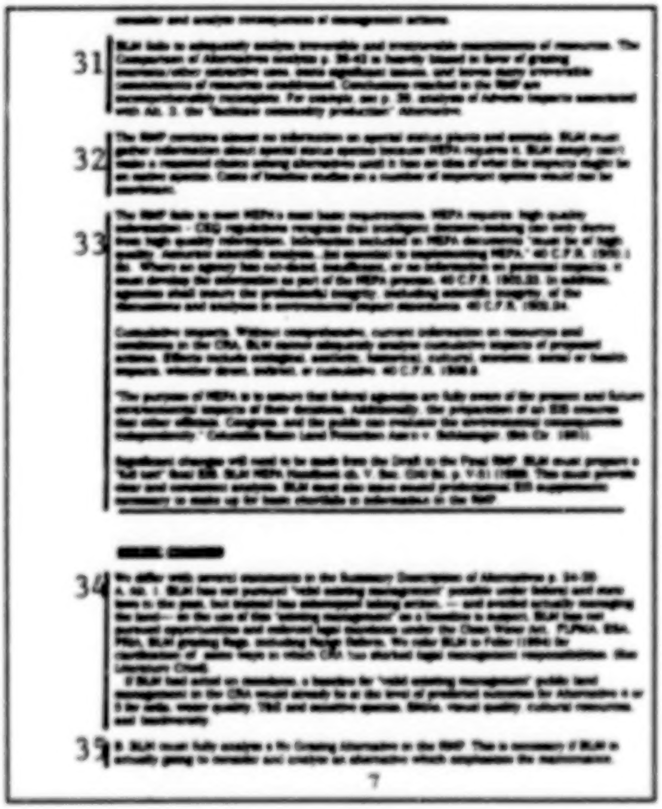
Letter No. 31 *continued*



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BLM Response to Letter No. 31 *continued*

31-25: The decisions made in the PRMP are appropriate for this level of planning. The intent of ID teams is to encourage interdisciplinary interaction, including public involvement, where appropriate.

31-26: Early public scoping for the Challis RMP revealed a concern about how livestock grazing would be managed, but did not demonstrate support for total removal of livestock from the public lands. The concerns you have raised about the "harms" caused by livestock grazing, and the impacts to resource values, were carefully considered by the Challis Planning Team. Impacts from livestock grazing to each resource have been reviewed. It has been determined that the adverse impacts have been appropriately mitigated by the many requirements which the PRMP imposes on livestock grazing activities, including site-specific removal of livestock when appropriate. Both the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, agencies responsible for oversight of activities which might affect species in peril, have concurred that livestock grazing activities, as proposed in the Challis PRMP, are not likely to adversely affect the species of concern.

In addition, planning criteria were presented to the public for comment, prior to approval by the District Manager (see DRMP p. 12). These criteria identified the "sideboards" or direction for the Challis planning effort. Total removal of livestock from the entire Resource Area would not be consistent with the following planning criteria:

1) *Social and economic values* — Livestock grazing is a major part of the local economy and historic lifestyle within the planning area.

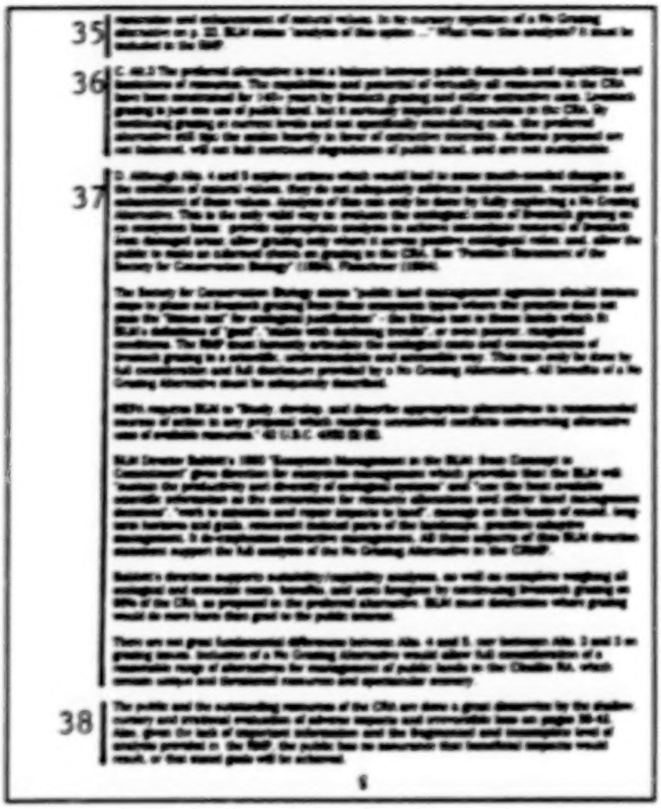
4) *Future needs and demand for existing or potential resource commodities and values* — Because approximately 94% of the lands in Custer County are either State or Federally managed, livestock operators depend heavily on the availability of BLM public lands for livestock grazing.

7) *Past and present use of public and adjacent lands* — See comments on planning criteria #1 and 4 above.

8) *Public value of providing goods and services in relation to the costs* — Although monetary costs are often associated with management of livestock grazing, consideration was also given to the social costs of not making public lands available for grazing (see comments on planning criterion #4 above).

31-27: Your opinion is noted. The Challis RA does not consider "no timber harvest" reasonable management to include in the PRMP for two reasons. First, contrary to your

Letter No. 31 *continued*



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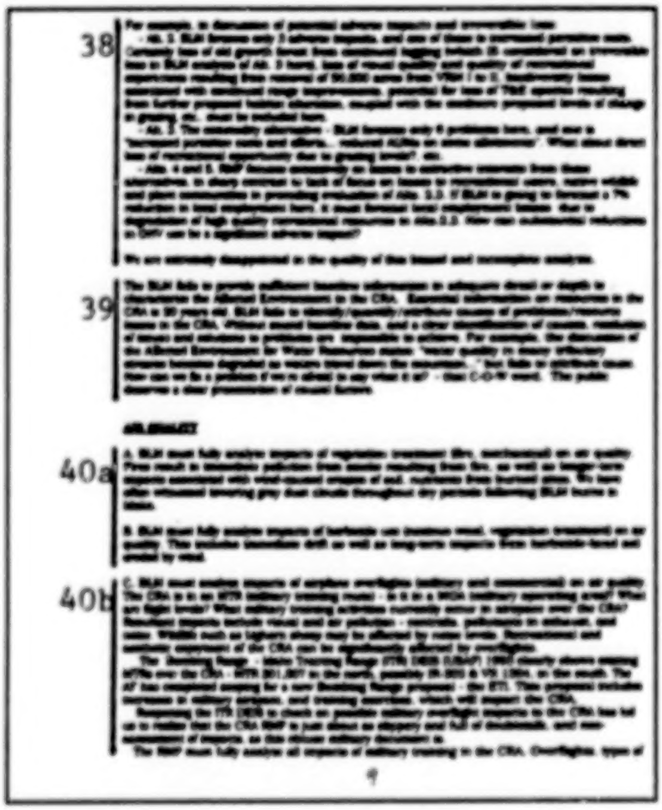
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BLM Response to Letter No. 31 *continued*

statement, there continues to be local demand for and economic importance of timber from the Challis Resource Area since the Salmon Intermountain sawmill closed in 1995. Successful bidders on recent BLM sales have all been local. In addition, continuing to provide commercial timber is consistent with the approved planning criteria for the Challis RMP (Idaho criteria #4 and 8; Draft RMP, p. 12). Second, timber harvest is a valid means of managing forest lands in order to promote or maintain the health and sustainability of all resources related to forest lands, and therefore supports the accomplishment of Forest Resources, Goal 1 (see PRMP, Forest Resources).

31-28: Your opinions are noted. The NEPA planning regulations discuss cost-benefit analyses in 43 CFR 1502.23. This section states that "the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." The BLM displayed a "cost-benefit" analysis of the Draft RMP alternatives in Chapter 2 on pages 25-42. The comparison of alternatives describes, in qualitative and quantitative terms, the likelihood and significance of adverse and beneficial impacts which would be expected to occur from implementation of the various alternatives. The costs and benefits of all RMP actions are disclosed in the Draft RMP for all alternatives in Chapter 4 - Environmental Consequences.

31-29: Mitigation measures are incorporated into the management decisions in the PRMP; the effects of proposed management are analyzed in Chapter 4 Environmental Consequences.

31-30: The watershed level of analysis would be inappropriate for an RMP. Rather, the PRMP establishes direction for the circumstances which would require a watershed assessment (see Attachment 5, "General" Standard Operating Procedure #1).

31-31: The discussion on page 39 is meant to be a summary comparison of the alternatives, rather than a comprehensive discussion of impacts. See Chapter 4 for a detailed discussion of impacts.

31-32: Your opinion is noted. The PRMP contains decisions which will improve the BLM's knowledge of special status species (see PRMP, Special Status Species, Goal 1, #1 and Goal 2, #2).

31-33: Since no specific examples are given, it is difficult to respond to this comment. Please note that in several cases in the RMP, the BLM has described where information is lacking, and provided decisions requiring the BLM to inventory or monitor to acquire the needed

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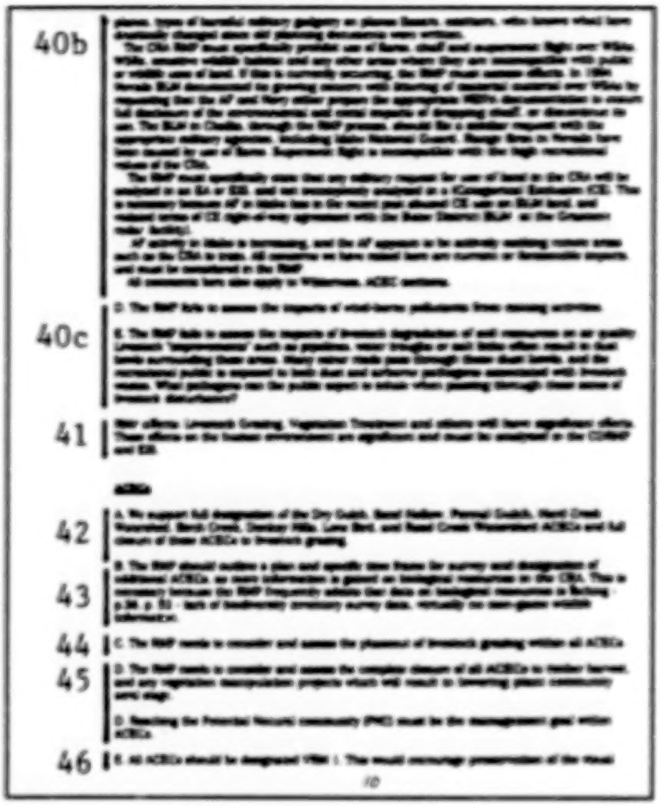

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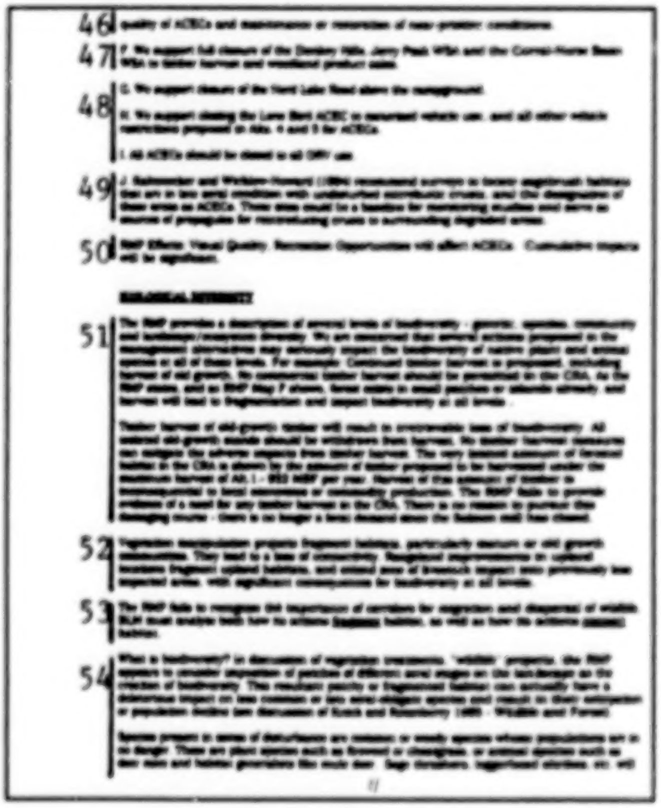

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information.

31-34: Your opinion is noted.

31-35: Please see response 31-26.

31-36: Your opinion is noted.

31-37: Please see response 31-26.

31-38: Pages 36-42 were meant to provide an overview of impacts, not a rigorous, thorough review. See Chapter 4 - Environmental Consequences for a full discussion of impacts.

31-39: Your opinions are noted. Please see response 31-18.

31-40: (a) These impacts were discussed in the DRMP on page 180, as well as in the FEIS, Vegetation Treatment on BLM Lands in Thirteen Western States and the Northwest Area Noxious Weed Control Program Environmental Impact Statements, which are incorporated in the DRMP/EIS by reference.

(b) Again (see response to comment 31-19), these topics were not identified as a planning issue for the Challis RMP. The Air Force completed an analysis for the proposed Idaho Training Range (ITR). The existing proposal for the ITR does not involve any changes in military activity in the Challis RA. The Challis RMP will not attempt to duplicate the analysis in the Air Forces's EIS.

(c) Air quality impacts from mining activities and concentrated livestock use were considered in the general statement about impacts at project sites (see DRMP, p. 180, #1).

31-41: Your opinion is noted.

31-42: Your preference for designation of all proposed ACECs is noted. The BLM considered designation of both the Carlson Hills portion of the Donkey Hills ACEC and the Road Creek Watershed ACEC, but decided not to include these areas as ACECs in the Proposed RMP. All other proposed ACECs would be designated. The PRMP would maintain grazing closures or would close to grazing the following proposed and existing ACECs: Cronk's Canyon, East Fork-Salmon River Bench, Malm Gulch-Germer Basin, and Sand Hollow. The remainder of the existing and proposed ACECs were not closed to grazing because BLM determined that existing ACEC values could be adequately protected without grazing closures.

31-43: The process for nomination of additional ACECs is

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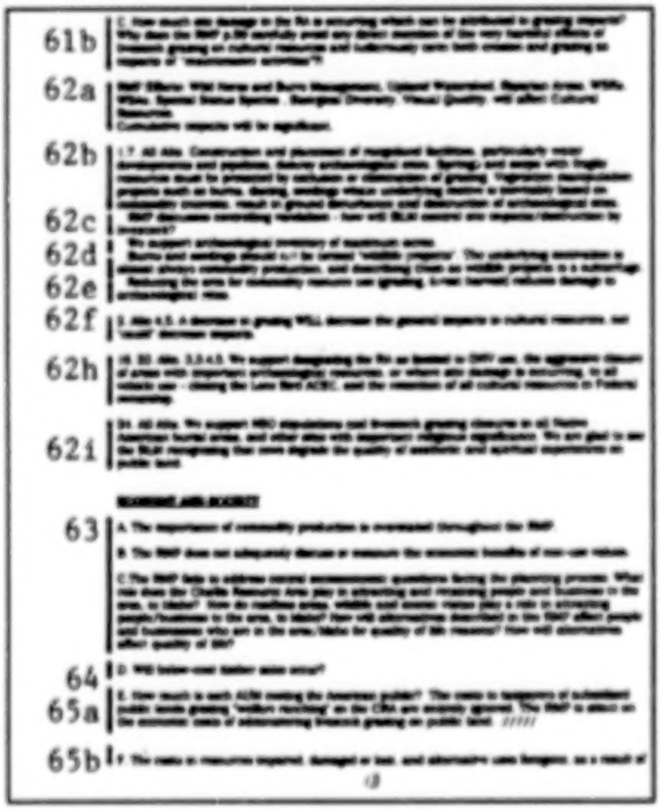
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outlined in BLM Manual Section 1613; it would not be appropriate to reiterate BLM Manual guidance in the RMP. If a new ACEC nomination is received after implementation of the approved RMP, the BLM authorized officer would assess whether the proposed ACEC's values meet relevance and importance criteria, as defined in the manual. If it is determined that the nominated ACEC should be proposed for designation, the RMP would be amended in accordance with planning guidance and regulations.

31-44: Your opinion is noted. Some ACECs are closed to livestock grazing, and all "open" ACECs have actions to manage livestock grazing. Grazing is normally compatible with ACEC designation, and would be considered in ACEC management.

31-45: (a) In order to protect identified ACEC values approximately 2,398 acres of forest land within the Cronk's Canyon, Malm Gulch/Germer Basin, and Herd Creek Watershed ACECs would continue to be closed to woodland product sales, and 327 acres of commercial timber in the Malm Gulch/Germer Basin and Herd Creek Watershed ACECs would continue to be withdrawn from harvest. The BLM believes forest management practices in the remaining ACECs would not be inconsistent with the protection of identified ACEC values.

(b) Unless another desired plant community better meets resource needs, PNC is the management goal for rangeland sites throughout the Resource Area, including ACECs (see PRMP, Livestock Grazing, Goal 1, #11). Vegetation treatments that may alter seral stage, in the short term, could be an integral part of this management.

31-46: Your opinion is noted. Because visual quality was not identified as an ACEC value by the BLM in any of the proposed or existing ACECs, the PRMP does not emphasize preservation (VRM Class I) of these land areas.

31-47: Your opinion is noted.

31-48: Your preferences for OHV management in ACECs are noted. Some of the OHV management you desire has been included in the PRMP (see PRMP, OHV Use). However, the BLM did not determine it was necessary to close all ACECs to OHV use in order to protect ACEC values.

31-49: This information has been noted.

31-50: Your opinion is noted. The BLM believes that the ACECs analysis stated in the DRMP is accurate.

31-51: Your opinions on commercial timber harvest and

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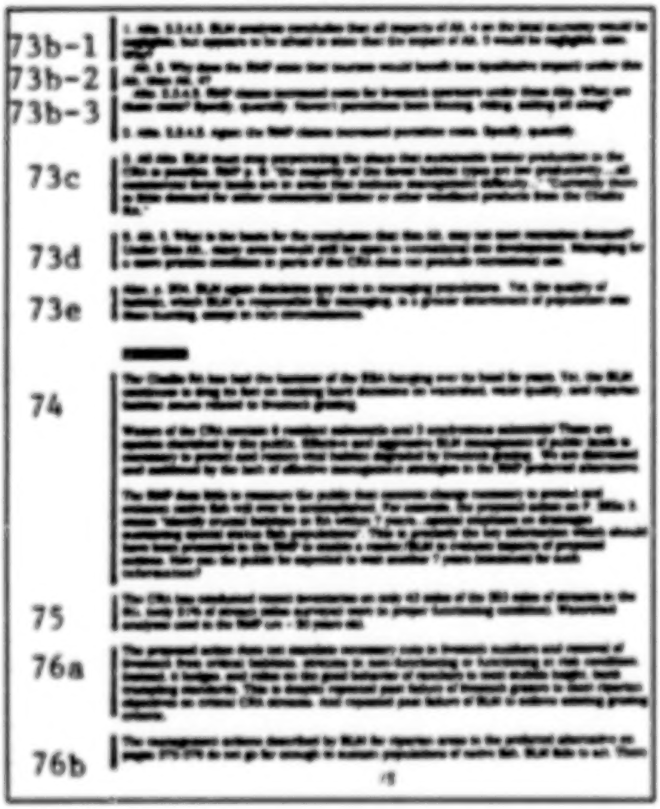

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maintenance of biodiversity are noted. The BLM estimates that up to 50% of commercial forest land acres in the RA have old growth characteristics. The BLM agrees some of these stands are in need of maintenance and retention, especially where they form habitat islands (see PRMP, Forest Resources, Goal 1, #22). However, stands with old-growth characteristics may in fact be above historical levels in the RA, as very few stands in early seral condition exist. Therefore, in addition to the maintenance and retention of some existing old growth stands, natural regeneration of early seral stands is an objective (see PRMP, Forest Resources, Goal 1, #8). The BLM believes the PRMP's proposed managument of forested areas will facilitate achievement of the goal statement for biological diversity (see PRMP/FEIS: PRMP decisions regarding Biological Diversity, Goal 1 and Forest Resources, Goal 1; and Chapter 4-Biodiversity, analysis of Forest Resource management impacts). Please also see response 31-27.

31-52: BLM believes the analysis of impacts to biodiversity from rangeland vegetation treatment projects is correct (see PRMP, Chapter 4 - Biological Diversity). Vegetative manipulations would affect relatively few acres and thus would have little effect on biodiversity. BLM believes that the PRMP decisions related to vegetation treatments would adequately protect other resource values, including biodiversity of the RA (see PRMP, Rangeland Vegetation Treatment Projects, Goal 1, #1-7). Also, before any vegetative manipulation or other range improvement project could be done, an analysis of impacts to biodiversity would be completed (PRMP, Biological Diversity, Goal 1, #1).

31-53: The BLM determined that the PRMP would have no reasonably foreseeable effects on the dispersal or migration corridors of most terrestrial wildlife species. Therefore, corridors were not discussed in the affected environment or environmental consequences. The effects of fences on the movements of big game animals are analyzed in Chapter 4 - Wildlife, "Rangeland Vegetation Treatments and Range Improvement Projects." Fragmentation of aquatic habitats was discussed in the DRMP on page 56, last paragraph; this discussion is expanded slightly in the PRMP. The Chapter 4 discussion of effects on biodiversity has been revised in the PRMP to more specifically mention impacts on the connectivity of aquatic habitats.

31-54: Your comments are noted. Please see response 31-52.

31-55: Your opinions are noted. The biological diversity goal statement has been revised to describe both "values" and "products."

31-56: The decisions outlined in the PRMP are consistent with

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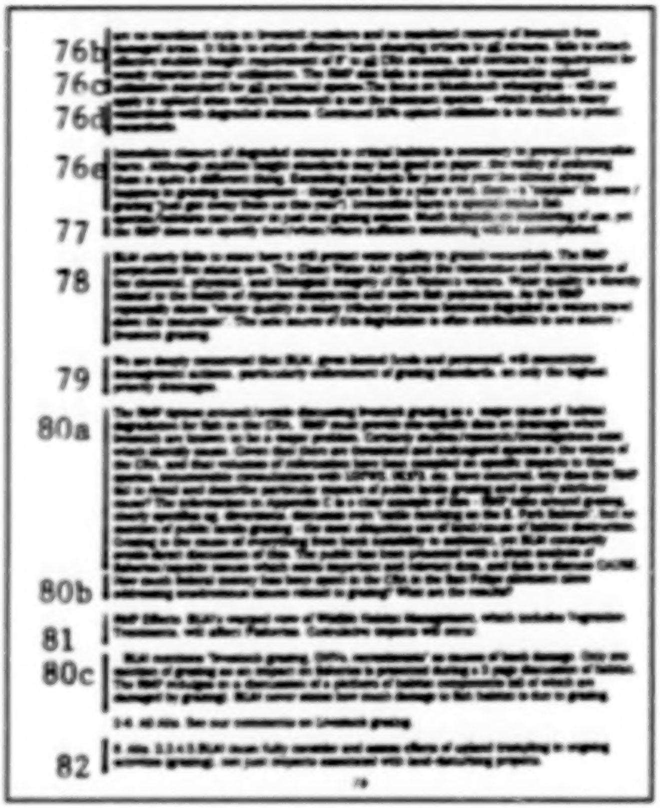
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this direction. The PRMP emphasizes assessment of biodiversity (see Biological Diversity, Goal 1).

31-57: (a) The PRMP provides for maintenance of forested area "islands" (see PRMP, Forest Resources, Goal 1, #22). Please also see responses 31-51 and 31-52. (b) Your opinion is noted. Biological Diversity, Goal 1, #1 requires an assessment of biodiversity as part of project and activity planning.

31-58: Your comments are noted. The BLM believes the biodiversity information available was sufficient to prepare an analysis of impacts from the alternatives.

31-59: (a) The PRMP adds an analysis of impacts from Land Tenure and Access and Minerals decisions. The BLM believes no reasonably foreseeable impacts to biodiversity would occur from Visual Resources decisions. (b) Your opinion is noted.

31-60: The DRMP mentions cultural resources have been disturbed by various agents, including "human and animal intrusion," and recognizes that grazing, as well as other activities, have adversely affected known cultural resources (DRMP, p. 59). The DRMP also analyzes the impacts of livestock trampling and range improvement projects on cultural resources by alternative (pp. 198a-199b).

31-61: (a) Your opinion is noted. Efforts to protect significant cultural resources from impacts due to livestock grazing will be introduced through the project or activity planning process on a case-by-case basis. The BLM feels that cultural resources can be protected from grazing-related impacts through a variety of methods such as fencing, changes in grazing systems (including changes in seasons of use), and moving livestock. All of these options are provided for in the PRMP. (b) The DRMP described the impacts of livestock trampling and range improvement projects on cultural resources under existing management (Alternative 1) ((DRMP, pp. 198a-199a). The statement in the Affected Environment you are concerned about has been revised in the PRMP.

31-62: (a) Decisions within each of the Management Concerns you listed were reviewed; the BLM still believes that there will be minimal or no impacts (including cumulative impacts) to cultural resources from these decisions.

(b) The National Historic Preservation Act (NHPA) of 1966, as amended, and the implementing regulations that define the Section 106 process of that Act reduce or eliminate the potential for destroying archaeological sites through construction and placement of rangeland facilities, vegetation manipulation projects, or any other

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ground disturbing projects. Through the NHPA, particularly Sections 106 and 110 of that Act, areas which may be affected by ground disturbing activities are inventoried for cultural resources prior to project implementation. If cultural resources are identified, they are evaluated for their eligibility to the National Register of Historic Places and effects are mitigated. Inventory, evaluation and mitigation of cultural resources are done in consultation with the Idaho State Historic Preservation Office, the Advisory Council on Historic Preservation, and appropriate Tribal governments, if necessary.

(c) Please see response 31-61(a).

(d) Your preference for inventory of maximum acres (Alternative 5) is noted. The BLM believes 500 acres of Class III non-project intensive inventory is more realistic and attainable. This objective does not preclude completing additional inventory if funding and staffing permit.

(e) The BLM disagrees. Prescribed burns and seedings can be described as wildlife habitat management projects when the primary objective is to provide forage for wildlife. For example, a number of prescribed burn treatments have been conducted in the Challis RA specifically for bighorn sheep on bighorn winter ranges.

(f) The BLM agrees that reducing the number of acres within the RA that are used for commodity purposes (such as grazing and timber harvest) will also reduce damage to archaeological sites from those activities.

(g) The BLM disagrees. A decrease in livestock grazing within a specific allotment will not always result in a decrease of impacts to cultural resources. Other aspects of grazing activities which are contributing to the impacts may also need to be changed.

(h) Your alternative preferences are noted. In general, the PRMP limits OHV use in the RA to existing roads, vehicle ways, and trails. Areas where there are concerns for cultural resources are designated "closed" to OHV use. The BLM prefers Alternative 2 of Management Concern: Cultural Resource Management, Goal 1, #6, because it retains the flexibility for sale or exchange to other agencies who may be better suited to manage these values for the public benefit.

(i) Your support of proposed management is noted.

31-63: The economic analysis describes quantitative and qualitative impacts to the economic sectors for which data were gathered during the social and economic study of Lemhi/Custer counties (timber, agriculture, government, tourism, mining). Some of these economic

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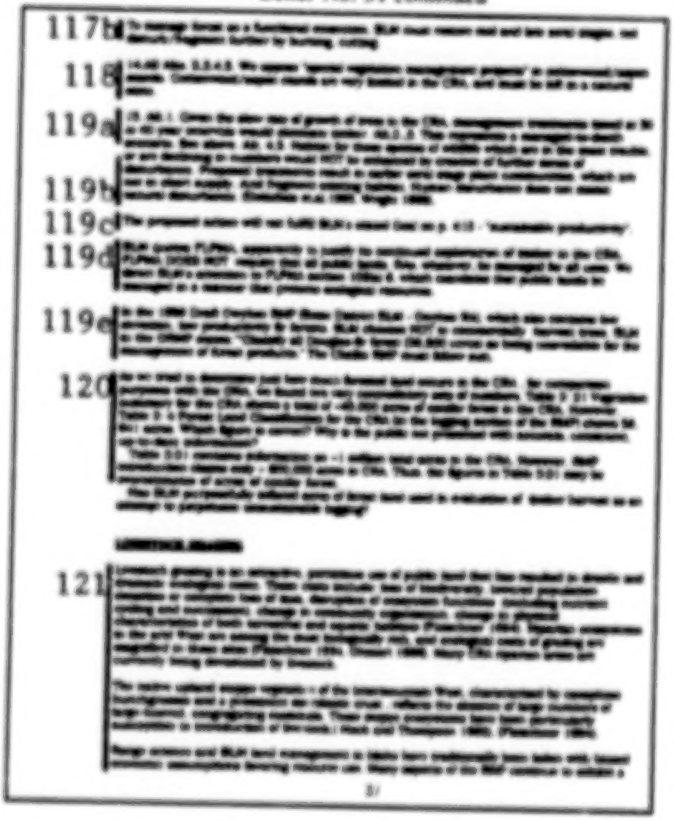
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sectors are based on commodities which are normally traded in the marketplace, e.g., timber, livestock, and minerals. The economic analysis may seem to focus attention on these commodity resources, but this is only because these aspects of the regional economy are readily quantifiable. Please note that the DRMP/EIS also analyzes the economic benefits of what IWP terms "non-use values." The economic analysis of the tourism sector specifically addresses the economic benefits of non-commodity resources such as fisheries habitat, wildlife habitat, visual quality, and water quality (see DRMP, p. 208a/b). The economic analysis of the government sector (p. 209a/b) indirectly discusses "quality of life" impacts on local residents, since local taxes provide for many public goods and services (see DRMP, pp. 68-69). The analysis of social effects more specifically documents impacts to "quality of life" considerations such as air quality, water quality, visual/aesthetic/scenic values, and recreational values (see DRMP, p. 209a). The analysis of impacts to recreation opportunities (DRMP, p. 257a/b, #2) indicates that although visitor use of the RA would probably increase as the regional population increases, the increase attributable to RMP actions would not be significant.

31-64: Below cost timber sales occurred in the Salmon District prior to 1990. However, increased stumpage prices and an informal cost accounting process initiated in the Salmon Field Office have prevented below cost sales since that time.

31-65: (a) The economic analysis for the Challis RMP focused on the economy and society of the two regions which primarily use lands in the RA and could be affected by RMP decisions (see DRMP, pp. 204-212). Estimates of economic impacts to other groups/regions (such as the State of Idaho, adjacent counties, "the American public", Canada...) are beyond the scope of this EIS. Laws, regulations, and policies establish AUM costs and grazing administration procedures on all public lands, not just the Challis Resource Area. The PRMP describes management guidance for the physical and biological resources within the Challis RA. It does not set economic policy, although some actions in the PRMP are specifically intended to reduce economic impacts (e.g., Land Tenure and Access, Goal 2, #1). Regarding the topic of what IWP terms "welfare ranching," please see response 31-68b.

(b) The Draft RMP/EIS analyzed the beneficial and adverse impacts of managed livestock grazing (see DRMP, Chapter 4).

31-66: The importance of natural resources in the Challis Resource Area to residents outside the two-county area were not ignored, since comments from residents

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throughout Idaho were considered in development of the Draft RMP and preparation of the Proposed RMP. Information on economies outside of Custer and Lemhi counties were not included in the economic analysis because purchases outside of the region do not contribute to the local economy. In fact, people residing in Custer or Lemhi counties who purchase goods and services outside the two-county region are not contributing to the local economy. If the BLM were to enlarge the region of influence to include Twin Falls or Boise, then the contributions to the economy of the Challis RA would not be measurable because of the size of the greater Idaho region. Please also see response 34-12.

31-67: (a) The DRMP (pp. 70-72) summarizes a recent sociological study of Custer and Lemhi counties. The sociological study did not interview every resident in the two counties; therefore, the results do not show all possible viewpoints which may occur.

(b) RMP decisions address private and public water rights; these decisions were revised in the PRMP to be consistent with current water rights law and policy (see PRMP, Minimum Streamflow, Goal 1, #1-3). Valid existing water rights are recognized; however, stipulations on rights-of-way for water diversions are described in order to protect public lands resources such as fisheries habitat. In addition, the Challis RA describes its intention to pursue minimum streamflows (i.e., to pursue water rights in the BLM's name).

Livestock grazing on public lands in the RA is clearly described as a privilege (allocation), not a right. RMP actions state that adjustments in livestock use can occur (*e.g.*, see Livestock Grazing, Goal 1, #2 and 6; and Riparian Areas, Goal 1, #7).

31-68: (a) An accurate analysis of the economy for the two-county area considers interconnected aspects of the economy; it is not accurate to analyze employment associated with grazing on public lands separately. For example, employment in the agriculture sector includes all of the following: jobs associated with livestock operations which do not utilize public lands, livestock operations which do use public lands; and businesses which supply goods and services to livestock operations which do and do not use public lands (such as veterinarians, feed stores, farm [illegible] supplies/repairs, etc.).

(b) The BLM does not decide who should and should not receive grazing permits based on outside income. Rather, a grazing permit is based on land base (land that a ranching operation has owned and maintained over a considerable period of time). The term "hobby" rancher usually means a small ranch operation with fewer than 20

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head of cattle where more than 50-75% of the wages earned are from part- or full-time work in or around nearby communities. Millionaires and billionaires do not invoke a mental picture of a "hobby" rancher in most people's minds. However, some people raise livestock as a secondary activity and do not necessarily need the additional income to sustain their standard of living; they may operate the ranch solely for income tax purposes. If, hypothetically - as IWP states, these ranch operations employ workers in low wage jobs and export profits from the community, these impacts are not resource utilization issues to be resolved in the RMP but rather issues of public tax and labor policies.

31-69: The trends you mention from the Affected Environment (growth in the service sector; increases in non-farm income) do not correspond to a change in ranchers' dependence on grazing on public lands. They are not at all related - a rancher may be as dependent on grazing on public lands today as he or she was 20 years ago.

31-70: (a) In 1991 timber-related employment in the 2-county area was 314 FTE (DRMP, p. 504). The Salmon Intermountain sawmill employed an estimated 50 workers, or about 16% of this total (DRMP, p. 207; Idaho Employment, August 1995, p. 7). When the mill closed in 1995, it is unlikely all those jobs left the timber sector. Even if they did, remaining timber-related employment would not be "zero" as IWP states. The Affected Environment explains that Salmon Intermountain Lumber depended on timber resources from the Challis Resource Area for only a small fraction of the mill's annual demand (DRMP, p. 88). Instead, timber sales offered by the Challis Resource Area are likely to be purchased by small local sawmills or non-local mills in southwestern Montana or Boise, Idaho. (DRMP, p. 88) Timber resources from the Challis Resource Area were, and are, in demand by sawmills other than Salmon Intermountain Lumber. Forest resource management which includes timber harvest would be beneficial to the local economy (DRMP, p. 207), not unimportant - as IWP states.

(b) The BLM considered a "no-logging alternative" during the process of RMP revision. Please see response 31-27.

(c) The costs and benefits of forest resource management which includes continued timber harvest were analyzed in the Draft RMP/EIS, Chapter 4. Please also see response 31-28, regarding the topic of cost-benefit analyses in general.

31-71: (a) The Draft RMP included a cost-benefit analysis of all RMP actions, including livestock grazing (see DRMP, Chapter 4 and response 31-28). (b) Please see response

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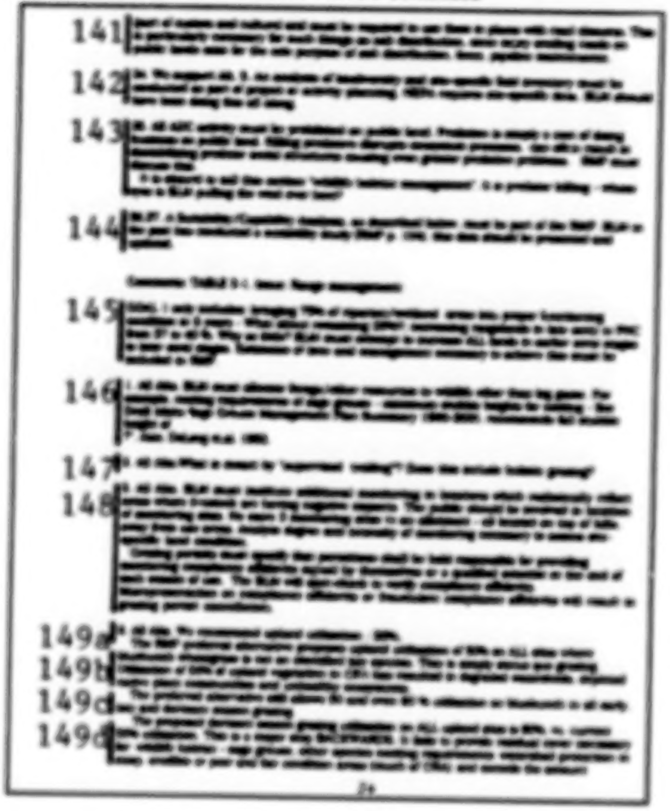
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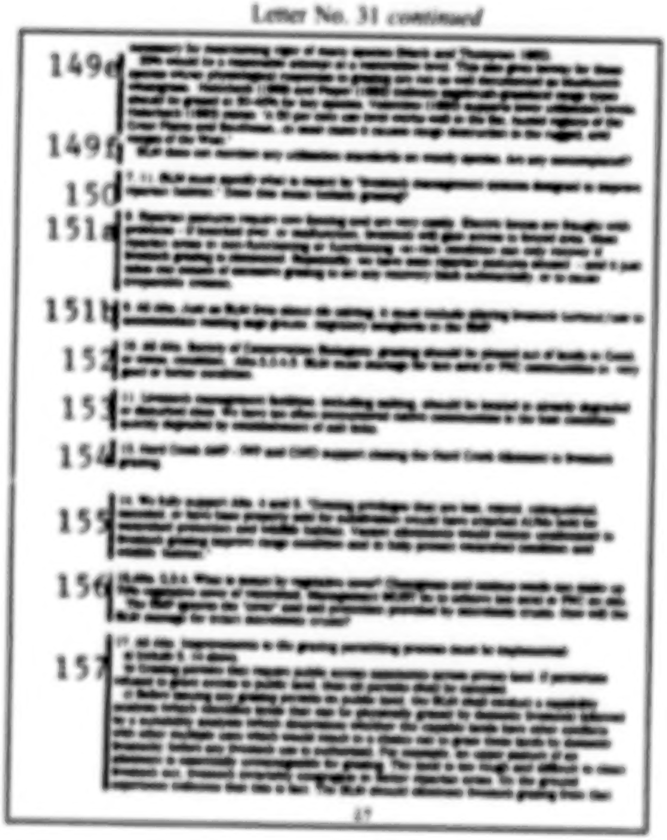
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31-72: The Pahsimeroi subregion is a census tract; population numbers for the subregion are based on information gathered during the 1990 census (DRMP, p. 65, Table 3-3, footnote 1). These are official numbers, and no other population figures are available. The economic analysis of impacts to the Pahsimeroi subregion under Alternatives 4 and 5 is correct as presented in the DRMP. Your opinion regarding the economic vs. resource impacts of Alternatives 4 and 5 has been noted.

31-73: (a) All actions in the RMP were considered when developing the quantitative and qualitative analysis of regional and Fort Hall economic impacts. The level and significance of direct, indirect, and cumulative impacts are described. (See Draft RMP/EIS, pp. 204-212.)

(b-1) The Alternative 5 analysis begins: "Same effects as Alternative 4,..."; i.e., the quantitative impacts to the regional economy would also be negligible for Alternative 5.

(b-2) The tourism sector would likely benefit less under Alternative 5 because this alternative placed less emphasis on developed recreation than Alternative 4, and the primary recreation demands in the Challis Resource Area are for developed recreation opportunities.

(b-3) Permittee costs are discussed under the qualitative summary because it is not possible to quantify those costs, since they would vary by operator and circumstances in a given year (such as precipitation). Yes, permittees are currently riding, salting, and fencing. The analysis estimates an increase in those efforts, when compared with present management.

(c) The BLM believes that harvest can be sustained in the Challis Resource Area, based on the fact that most trees removed by natural causes or human intervention are being replaced by natural regeneration. Commercial forest sites are relatively low productivity and have management problems, but are manageable. Please also see responses 26-6 and 31-27.

(d) Alternative 5 emphasizes dispersed, undeveloped recreation opportunities. The BLM estimates that under Alternative 5 the demand for developed recreation opportunities is likely to increase at a faster rate than the available supply. In addition, Alternative 5 greatly reduces off-highway vehicle use recreational opportunities.

(e) Your opinion is noted. However, the BLM disagrees. In addition to species harvest regulations, many factors outside the BLM's control and management responsibility

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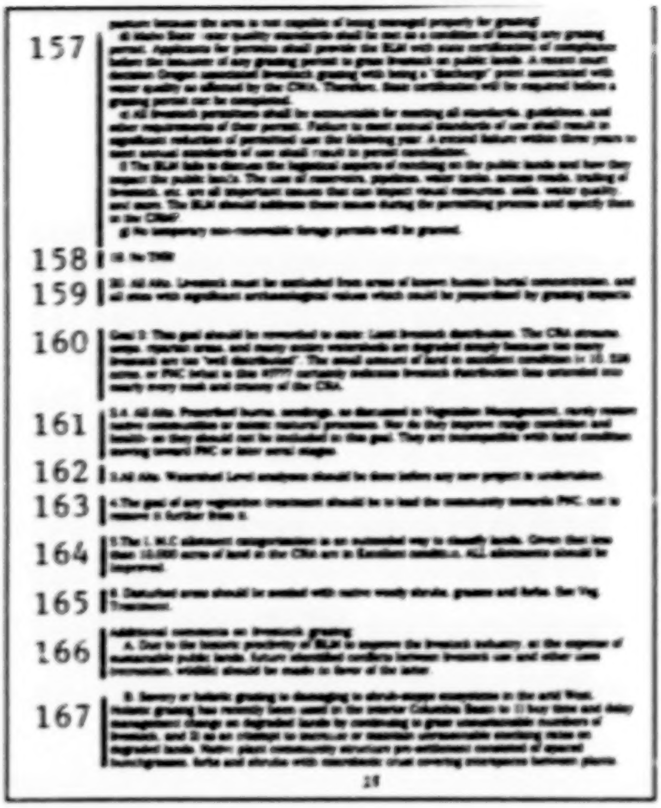

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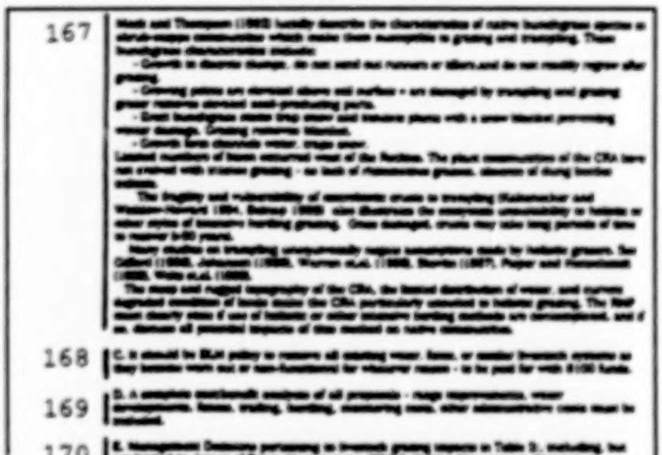

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can affect populations; for example: climate, disease, predation, and downstream migration barriers.

31-74: BLM believes the decisions in the PRMP (especially see those decisions under Livestock Grazing, Riparian Areas, Fisheries) will restore and protect riparian and aquatic habitats. The BLM has received concurrence on the Biological Assessment of impacts due to PRMP actions from both the National Marine Fisheries Service and U.S. Fish and Wildlife Service. The DRMP decision you are concerned about has been changed in the PRMP to delete the 7 year timeframe, because identification of crucial habitats was completed in 1994 (see response 34-83).

31-75: The Affected Environment in the PRMP has been updated to reflect the changes in current conditions observed since the DRMP was originally drafted, including changes in riparian functioning condition. Some information presented in the DRMP and carried forward into the PRMP is "old" information. Appendix L has been included in the PRMP to indicate the types of ongoing monitoring being used to build on this information and help the BLM analyze the effectiveness of past and present management actions. In addition, numerous decisions in the PRMP identify the need for new or updated inventories for a variety of resources where data are lacking (see response 15-7(b)).

31-76: (a) Your comments are noted.

(b) The PRMP would apply bank shearing criteria to all fish-bearing streams (see Riparian Areas, Goal 1, #6). The six-inch stubble height standard would apply only to functional-at-risk, with downward trend, and non-functional condition streams (see Riparian Areas, Goal 1, #5b). However, the four-inch herbaceous stubble height criterion in #5a is believed to be sufficient to improve and/or maintain proper functioning condition. If riparian improvement to meet objectives (including fisheries habitat objectives) is not occurring, other livestock management measures would be implemented (Riparian Areas, Goal 1, #7).

(c) Woody vegetation use requirements would be developed as needed (see PRMP, Attachment 3). In most cases, specific standards would be developed by an interdisciplinary team in specific activity plans.

(d) Upland species are managed for proper degrees of utilization through the use of key species, described in BLM handbook TR-4400-3 (Rangeland Monitoring Utilization Studies, 1984), and defined as (1) those species which must, because of their importance, be considered in a management program; or (2) forage species whose use serves as an indicator to the degree of use of associated species. The BLM believes that the

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degree of utilization prescribed for bluebunch wheatgrass and other upland key species is sufficient to protect watersheds. The PRMP also manages upland watersheds through cover standards (Livestock Grazing, Goal 1, #14) and other upland management actions (Upland Watershed, Goal 1).

(c) Your opinion is noted. The BLM believes that resource conditions on degraded streams will improve with implementation of the six-inch residual stubble height grazing standard and bank stability standard prescribed in the PRMP (see response 31-76b above).

31-77: The RMP provides a general vegetative monitoring framework in the following decisions: Livestock Grazing, Goal 1, #2 and #6. However, an RMP is not the place to describe the details of how, when or where resource monitoring will be performed. These details are provided at the activity plan level where specific, measurable objectives are identified, which in turn guide the direction of monitoring.

31-78: BLM believes that the following PRMP decisions will be adequate to protect water quality in grazed watersheds: Livestock Grazing, Goal 1, #7 and 14; Riparian Areas, Goal 1, #4-7; and Water Quality, Goal 1, #2, 3, and 7.

31-79: As stated in the PRMP, Fisheries, Goal 1, #4, management strategies and objectives would be developed for all fish-bearing streams, to ensure good quality aquatic and riparian habitats. In addition, grazing practices would be designed to be consistent with attainment of desired riparian and aquatic habitat conditions in all fish-bearing streams (PRMP, Livestock Grazing, Goal 1, #11). The PRMP's grazing and cover criteria on upland sites (Livestock Grazing, Goal 1, #4 and 14) and riparian areas (Riparian Areas, Goal 1, #4-7) are expected to benefit watershed and riparian function (and therefore fisheries habitat) throughout the Resource Area, not just on certain streams.

31-80: (a) The DRMP discusses the effects of livestock grazing management on fisheries habitat for all alternatives, including existing management (see p. 213a, General Discussion of Effects to Fisheries, third paragraph; and pp. 214-217, #2, 3, 5, 6, 9, 11, and 12). The emphasis the PRMP places on management of livestock grazing is a direct result of the BLM's concern about the effects of livestock grazing on fisheries habitat.

(b) The results of monitoring to date indicate that substantial progress has been made by the permittee toward achievement of resource management objectives, particularly with respect to fisheries habitat improvement.

(c) The DRMP, pp. 213a/b provide a general discussion

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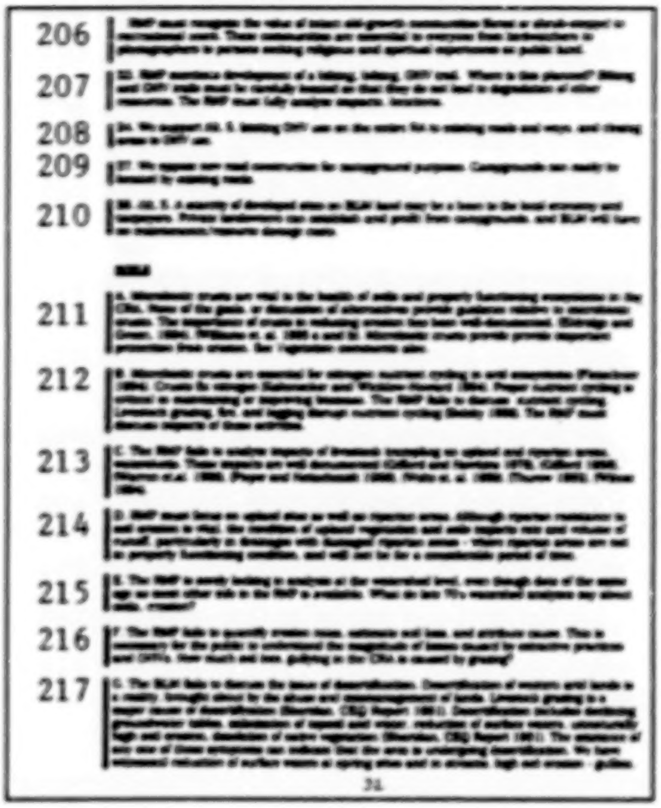

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of impacts as a context for understanding the specific analysis on pp. 214a-226a; specific livestock grazing impacts on fisheries habitat are described in the analysis points listed in response 31-80(a) above. Please note that the specific analysis discusses the same factors as the summary (*e.g.*, sedimentation, vegetation condition).

31-81: Your opinion is noted. The BLM believes no reasonably foreseeable impacts to fisheries would occur from wildlife habitat actions. Impacts to fisheries from rangeland vegetation treatment projects are described in the PRMP, Chapter 4 - Fisheries, #20.

31-82: The impacts of trampling on upland sites by livestock, wild horses, big game, recreationists or any other activity were not specifically addressed or analyzed in the Draft RMP impact analysis. Trampling impacts were analyzed as a component of or companion to the application of management actions. Reducing impacts from trampling is implied through applying utilization and plant cover criteria, managing for late seral and PNC, and improved livestock distribution (DRMP, p. 279, #5, 6, 9), limiting livestock trailing and structural facilities (DRMP, p. 283, #29), and limiting OHV use (DRMP, p. 283, #26). Where appropriate, the PRMP impact analysis has been revised to discuss the effects of trampling more directly. Upland Watershed, Goal 1, #2 (as revised in the PRMP) requires the BLM to consider the effects of resource use timing and intensity on soils before new soil disturbing actions (including changes in livestock grazing) are authorized.

31-83: No specific guidelines for Management Concern: Riparian Areas, Goal 1, #10 were considered necessary in the DRMP; however, this project would require an environmental assessment (EA). The BLM expects this would involve a cooperative effort with a grazing permittee or permittees to manage riparian habitats on perennial streams on all or part of an entire watershed. Development of the San Felipe AMP/EA is an example of such an effort and would meet the intent of this decision once the AMP/EA is completed.

31-84: Your opinion is noted. The BLM feels that riparian pastures are a valuable opportunity for demonstrating that livestock use and riparian improvement are compatible. The "cost-benefit" analysis you desire is provided in the DRMP on p. 217, #12, Alternatives 2 (riparian pastures) and 5 (supervised trailing only). Please also see comment 31-28 regarding cost-benefit analyses in general.

31-85: The decision to set priorities doesn't mean the BLM won't pursue minimum streamflows on the other fish-bearing streams - it just says the BLM will apply for minimum streamflows on certain streams first.

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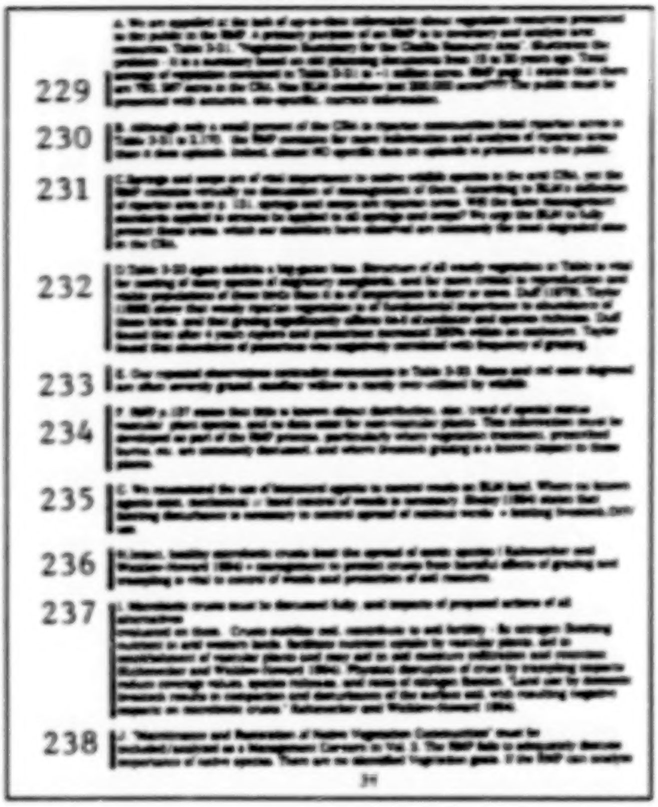

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Attachment 14, #3 ends by saying "...indefinitely, until minimum streamflow needs are satisfied."

31-86: Your preference that RMP actions "improve water quality conditions to as near pristine levels as possible" (Alternative 5) is noted. The PRMP contains numerous management decisions which would directly or indirectly improve degraded water quality throughout the Resource Area. For example, see the PRMP decisions listed under Water Quality, Goal 1 (please note that these decisions varied little among alternatives; see DRMP, pp. 380a/b); Riparian Areas, Goal 1, #4-7; and Fisheries, Goal 1, #4.

31-87: Your opinion is noted. All road construction will be in compliance with the road standards set forth in BLM Manual Section 9113 (see PRMP, Attachment 5, General SOP #7). Additional PRMP decisions would limit or define new road construction in the Resource Area: see Riparian Areas, Goal 1, #12; Water Quality, Goal 1, #2, 3, 5, and 6; and Transportation, Goal 1, #1 and 9.

31-88: (a) The risk of failed treatments is considered negligible. Various PRMP actions would ensure rapid revegetation of the disturbed site (see Attachment 8: Design Specifications). Alternative 1 describes impact to fisheries values through increased sedimentation. As noted under Alternative 2, buffer zones and vegetative conversion acreage limitations would mitigate potential sedimentation impacts. The BLM feels that this description of impacts is adequate.

(b) The PRMP contains management to prevent the types of erosion impacts you describe. An ID team would review proposed actions to evaluate site recovery potentials and suitability as well as susceptibility to erosion (e.g., see Upland Watershed, Goal 1, #2).

31-89: The PRMP analysis has been clarified.

31-90: Once approved, the Challis RMP would implement livestock management actions to protect fragile watersheds and wildlife habitat; for example, see PRMP, Livestock Grazing, Goal 1, #3 and Wildlife Habitat Management, Goal 1, #6.

31-91: Your preference is noted.

31-92: Your preference for Wild & Scenic River designations is noted. In addition to considering the qualities of a river segment and its corridor, BLM recognized that determining a river suitable for management as part of a National Wild & Scenic River System is an issue of allocation. For example, there may be rivers that have numerous OR values present within the river corridor, but because of other issues such as current or proposed uses

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in or near the corridor, BLM may have chosen not to allocate that river for management as a national wild, scenic, or recreational river. Many of the important resource values which are present along the rivers in the Challis Resource Area are protected by legislation other than the Wild and Scenic Rivers Act, such as the Endangered Species Act and various cultural resource laws. The same allocation principle is true for ACEC designations. Those included in the PRMP are those the BLM feels are appropriate for meeting the resource needs of the planning area, while also allowing other uses of the public lands. The issue of recommendations for wilderness designation was addressed by the BLM in the 1980s, and is not within the scope of this PRMP (see DRMP, p. 13, Challis RMP Planning Criteria - #5).

31-93: A time frame for special status species inventories would be identified in the RMP implementation plan, if determined necessary.

31-94: Your comments are noted. The BLM believes the PRMP provides adequate restrictions on mineral development.

31-95: Your opinion is noted. The PRMP expands the analysis of cumulative impacts to fisheries resources.

31-96: A "natural abundance and diversity of aquatic habitats" does not include degraded habitats. Degraded habitats are not "natural." The goal also states: "to support fisheries resources in a healthy and productive condition.....", etc. Degraded habitats cannot support fisheries resources in a healthy and productive condition.

31-97: The PRMP decision on identifying critical habitats has been changed to delete the 7 year timeframe, because these inventories were mostly completed during preparation of the DRMP. The timeframe for inventory of anadromous fish, bull trout, and westslope cutthroat trout habitats and distribution has been deleted from the PRMP, since such efforts are on-going and will continue throughout the life of the RMP. The 7 year timeframe for developing and implementing a fisheries plan for the Big Lost River is realistic, as this is a lower priority fisheries within the Resource Area and management guidelines in the PRMP will ensure riparian habitats are maintained or restored. The 7 year timeframe is also reasonable for elimination or modification of migration barriers, since this action could require substantial effort and take years to complete.

31-98: Priorities for land tenure adjustments (PRMP, Land Tenure and Access, Goal 1, #2)) indicate that BLM would attempt to acquire lands with high resource values, and facilitate threatened/endangered species recovery. This should result in a "net gain" of critical habitats.

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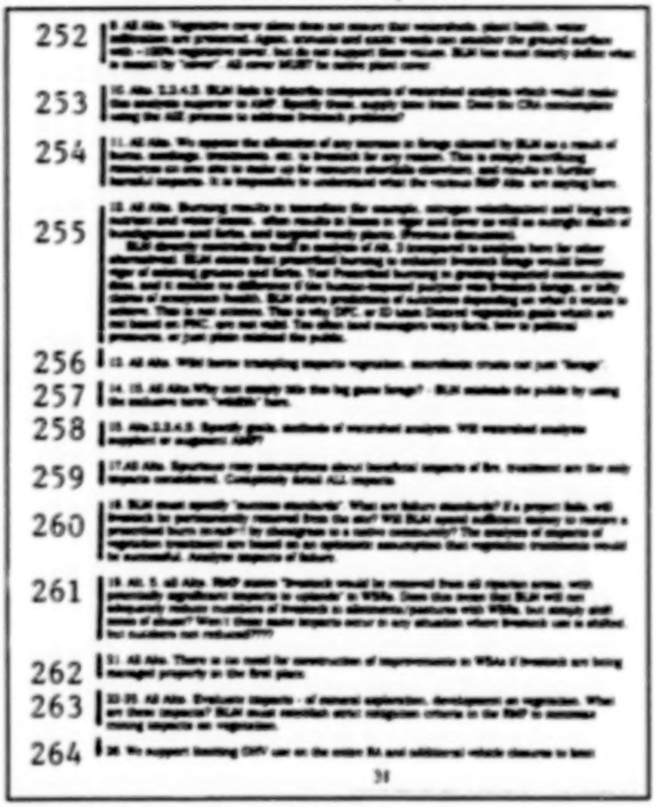
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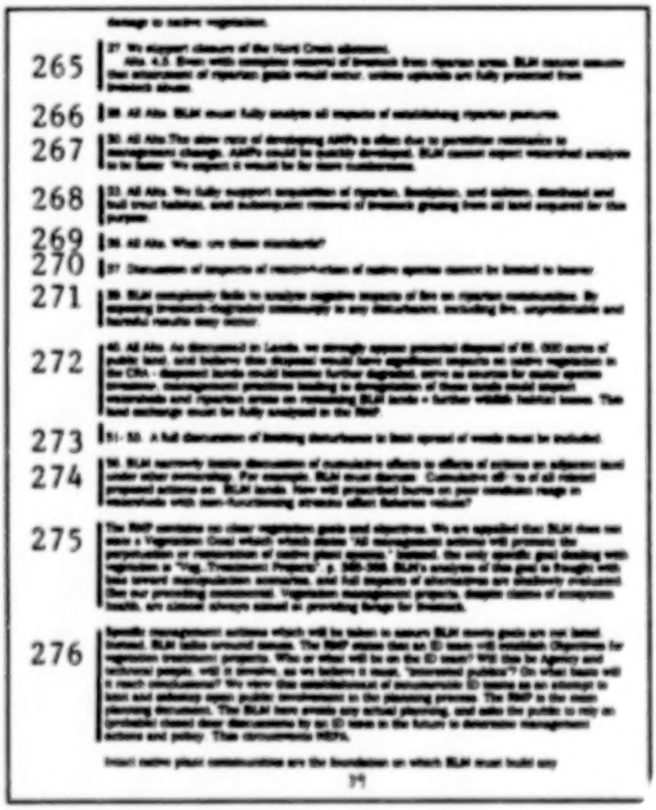
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31-99: Your opinion is noted. The PRMP would provide for full suppression of wildfire in sage grouse habitats (i.e., sagebrush-grassland ranges) in the absence of a fire management activity plan (see Fire Management, Goal 1, #2). Development of fire management activity plans would consider resource values and the need for full suppression of wildfires in sage grouse habitats.

31-100: The BLM agrees that areas vulnerable to cheatgrass invasion (and noxious weeds) must be protected from fire. These areas are often low elevation Wyoming sagebrush communities with reduced native grass compositions, but still producing enough fine fuels to support fire. Not all Wyoming sagebrush communities are susceptible to cheatgrass invasion, however. Many areas in the Resource Area have very good native grass compositions which would respond favorably to prescribed fire or controlled wildfire. Fire suppression efforts will be determined on a site-specific basis with activity plan level direction, as described in Fire Management, Goal 1, #2.

31-101: "General" design specification #4 (see PRMP, Attachment 8) requires the use of native species in riparian areas. The PRMP emphasizes use of native species in upland areas, but does not require it (see "General" design specification #3). The BLM agrees fire rehabilitation efforts should encourage the use of native species, including shrub species where appropriate. However, there are instances where non-native species may be utilized to enhance the establishment of native species or where immediate watershed protection is necessary. An example may be including annual ryegrass (a short lived, weakly competitive species) in the seed mix to provide a rapid ground cover. An interdisciplinary team would be used to identify specific objectives (see PRMP, Upland Watershed, Goal 1, #8) and the need to consider non-native species in meeting those objectives.

31-102: Many PRMP decisions adequately direct post fire rehabilitation stipulations. Please see Rangeland Vegetation Treatment Projects, Goal 1, #4-6; Upland Watershed, Goal 1, #8; Fire Management, Goal 1, #8; and Attachment 9.

31-103: The "Note" on Map 16 explained that fires would be fully suppressed unless a fire management activity plan exists for an area. Thus, there would not be an immediate shift from "full suppression" to "conditional suppression" throughout the Resource Area. All "conditional suppression" areas would become so only after site-specific analysis during preparation of an activity plan. The PRMP analysis has been revised, where appropriate, to clarify the impacts of this management strategy.

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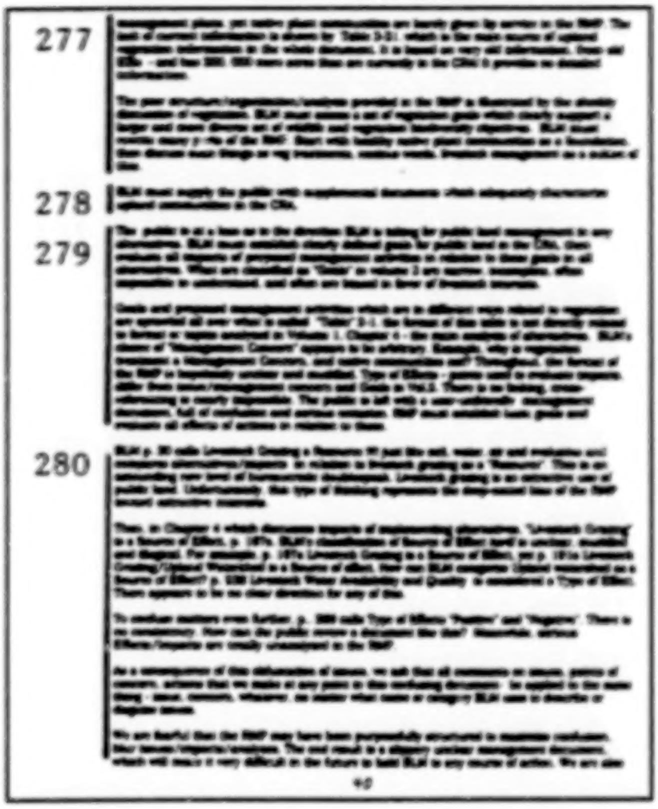
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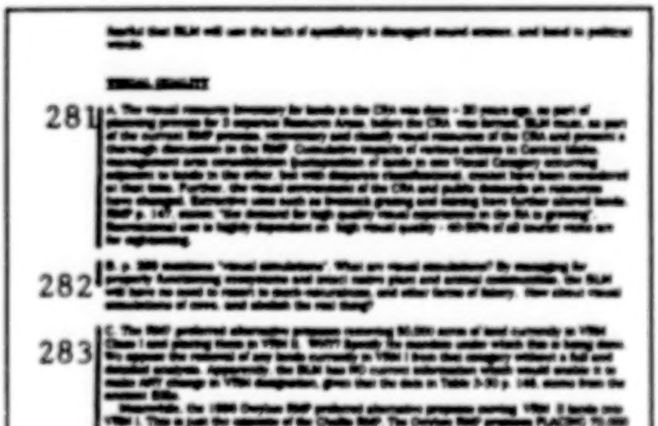
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31-104: (a) The BLM agrees that the PRMP forest management proposal is intensive, even though 60% of all CRA forest lands would not receive such management. You state that such proposals "remain largely undeveloped, untested, and unsupported by empirical evidence." The BLM believes the validity of management to maintain the sustainability of forest lands is tested through previous logging or natural disturbances. Marking prescriptions in the CRA are based on previous field observation on similar sites. Both logged and unlogged sites are monitored to determine: 1) in what conditions natural regeneration thrives; 2) the historic distribution of large (old growth) trees; and 3) the role of insects/disease/fire in the stand. These observations are then used to determine what prescriptions should be implemented to maintain the ecological integrity of a given forest stand. "No action" is often deemed appropriate management.

(b) Vegetation treatment decisions are unlikely to affect forest resources, because vegetation treatment decisions focus on rangeland vegetation. The BLM maintains that biological diversity decisions are not expected to affect forest resources.

31-105: (a) The BLM disagrees. Timber harvest may decrease susceptibility to fire, insects or diseases. For example, clearcuts can effectively remove all fuel for fires, food for insects, and substrate for disease. Any harvest level achieves the same, to a lesser effect. For example, partial cuts in lodgepole pine have been shown to reduce disease infestation levels and tree mortality (Schmidt et. al., 1988; Cole and McGregor, 1985).

(b) The BLM believes PRMP decisions do modify forest management to "fix forest conditions." Existing management (Alternative 1 - see DRMP) and the PRMP decisions are quite different. Chapter 4 - Forest Resources describes how PRMP actions are expected to change forest conditions in order to achieve the forest resources goal statement.

(c) The PRMP does not adopt the Alternative 5 decision which requires forest stand management treatments to mimic natural disturbance (see DRMP, p. 414b, #15).

(d) Your comments are noted. Observations made on local wildfires indicate intensive forest management can affect fire behavior. For example, on the Long Tom Complex Fire along the Salmon River in 1985, it was observed that in both Ponderosa and lodgepole pine types, fires usually changed from crown fires to non-lethal understory fires where harvesting had previously occurred (Joe Carvelho, personal communication).

(e) Although weather (e.g., winds, air temperature, humidity) may be the primary determinant of fire

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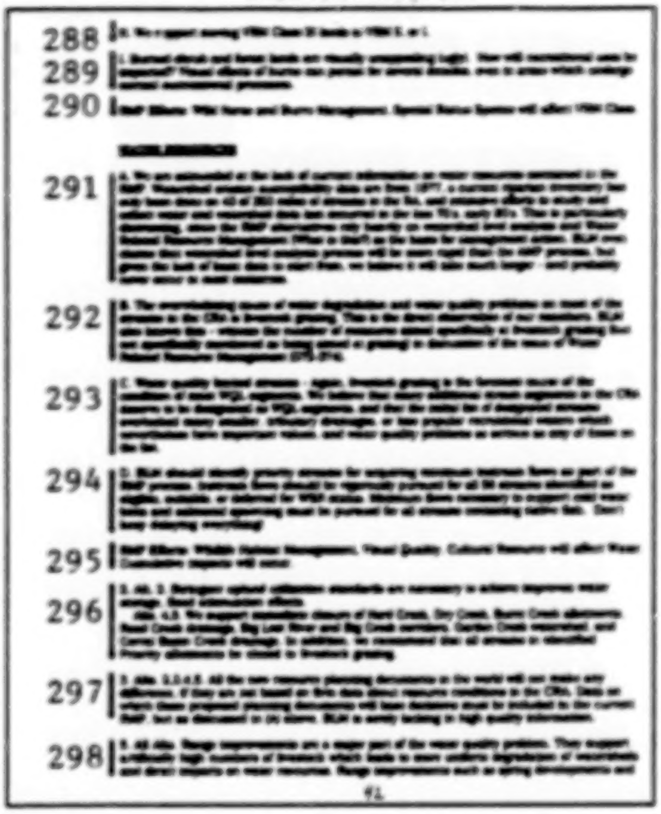
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behavior, fuel obviously plays a major role in determining fire severity. For example, if weather conditions are the same, a fuel load of 35 tons to the acre of dead-and-down woody material cured to 12% fuel moisture would have a higher severity rating than one-ton-to-the-acre of grass and forbs cured to 12% fuel moisture. The BLM considers tree stocking densities in the RA to be a forest health concern, partly due to fuel loading and the concurrent elevated fire severity rating.

(f) This information is noted. The PRMP focuses on minimizing the risks of insect and disease infestations within the planning area. Cumulative impacts at a landscape level are stated in the Forest Resources analysis (see PRMP, Chapter 4, Forest Resources, #24).

(g) This information is noted. PRMP forest management focuses on maintaining adequate shade to prevent drying, yet opening the canopy enough to reduce interception loss. Many studies have been presented showing increased water yields from partial cutting (Knight et. al., 1991; Troendle and Kaufmann, 1987; Meiman, 1987), due to reduced interception loss and moisture competition.

(h) Increased fire frequencies (whether natural or prescribed) are needed in the CRA to minimize fuel loading and increase vigor. The fuels created from harvest activities are often used as a tool for reintroducing fire.

(i) This information is noted. Please see Chapter 3 - Fire Management, for a discussion of the incidence and cause of unplanned ignitions in the Challis Resource Area.

(j) Although it is true that some (e.g., high-intensity) fires would destroy predators and their habitat, fire generally produces more "dead wood" than it consumes, resulting in a net gain of habitat for insects, birds, and other animals which depend on dead wood for their habitat.

(k) None of the forest diseases known to occur within the CRA are believed to be exacerbated by roads. Proposed management activities are expected to reduce the risk of disease. Root rot diseases are undocumented in the CRA, and no symptomatic evidence has been documented. The most notorious root rot disease, Armillaria spp. appears to be limited to moister, warmer habitat types associated with northern Montana and Idaho (McDonald, et. al., 1987).

(l) This information is noted. The consequences of both further disturbance and decisions to set aside some stands from forest management are analyzed in Chapter 4 Forest Resources.

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31-106: (a) The BLM agrees that one of the goals of intensive management should be to "establish once-prevalent forest types", although we disagree that old-growth communities are in need of establishment. The BLM estimates that up to 50% of commercial forest land acres in the RA have old growth characteristics (DRMP, p. 82). The majority (85%) of forest stands are dominated by larger trees, greater than 10" DBH. In the Challis Resource Area, stands with old-growth characteristics may in fact be above historical levels, as very few stands in early seral condition exist. A drive along the upper Salmon River from Thompson Creek to Stanley demonstrates the extensive presence of mid seral forest stands due to fire, but little to no early seral forests. This shows that historically, at least during the previous 100 years, extensive early seral stands existed in forests like the Challis Resource Area's. Therefore, in addition to the maintenance and retention of old growth stands, natural regeneration of early seral stands is an objective (see PRMP, Forest Resources, Goal 1, #8, 14 and 22.

(b) Your citation of the DRMP is taken out of context. If you read on, the next sentence discusses the conditions which must be provided for natural regeneration to occur. The PRMP identifies forest management which provide for these conditions.

(c) Your suggested goal statement and opinions are noted. The BLM does not believe the "human hands off" approach you suggest would "restore ecological processes."

(d) Your opinion is noted. The Forest Resources analysis discusses the role of prescribed fire in forested systems (see PRMP, Chapter 4, Forest Resources, #3, 17, 24, and 25).

31-107: Your opinion on clear cutting is noted. The proposed reduction in clearcut size for Douglas fir stands from 40 acres (DRMP, p. 413, #7, Alternative 1) to 10 acres (Alternative 2) was primarily to address concerns like the ones you raise. Additional requirements to minimize wildlife escape distance, blend into the surrounding landscape, and design for natural regeneration would adjust the shape and position of a 10-acre clearcut to adequately regenerate. On higher (and therefore moister) elevation clearcut sites in the CRA, particularly in lodgepole pine stands, sagebrush invasion is minimal and regeneration is more successful. This is particularly true in lodgepole pine stands, as best germination occurs in full sunlight, and a residual overstory following a partial cutting generally reduces germination and survival (Fowells, 1965).

31-108: Your comments are noted.

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31-109: Current law, regulation, and policy, as well as prior inventories, formed the basis for proposed forest management (see PRMP, Forest Resources, rationale statement). Reconnaissance, monitoring, and incidental observation activities performed since formal inventories were completed in 1984 provide current information pertaining to insect and disease levels, reforestation needs, fire occurrence, etc.

31-110: Your opinion is noted. The use of prescribed fire to manage forest lands withdrawn from timber harvest would be addressed during the development of fire management activity plans (see PRMP, Fire Management, Goal 1, #1 and #3).

31-111: Your opinion is noted. The BLM believes that harvest can be sustained in the CRA based on the fact that most trees removed by natural causes or human intervention are being replaced by natural regeneration.

31-112: Your opinion is noted.

31-113: Your recommendation for a 10 year closure is noted. BLM would prefer to monitor sites to determine the need for livestock closure in forest regeneration areas.

31-114: Your opinion is noted. See response 31-106a

31-115: Your opinion is noted.

31-116: (a) Your comments are noted. The BLM believes that some of these areas can be managed for timber harvest without significant adverse effects on other resource values.

(b) Your opinion is noted. The BLM does not agree that timber harvest must be foregone in order to manage on an ecosystem basis.

(c) Forested areas do not exclusively exist as small islands in the Challis Resource Area (see PRMP, Map D: Forest Lands). Neither is old growth lacking (see response 31-106a). Although timber is often slow growing, this is usually a result of excessive stocking density. Commercial forest sites are relatively low productivity and have management problems, but are manageable.

31-117: (a) Your opinion is noted. Recent timber sales in the Challis Resource Area have all sold, indicating a local demand for timber and some economic importance.

(b) Your opinion is noted.

31-118: Your opinion is noted. Aspen stands in the RA which are left in a "natural state" continue to decline, with little

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to no regeneration, and conifer encroachment/ replacement. The BLM believes special management is necessary to preserve aspen, and possibly cottonwood, stands in the RA.

31-119: (a) Treatments designed to "maximize timber productivity" (DRMP, p. 414a, #15, Alternative 1) would not eliminate timber. Your opinion regarding Alternatives 2 and 3 is noted.

(b) Many special status species of the Challis RA require late-seral or PNC habitats. However, many special status species are known to use and depend upon early-seral and mid-seral habitats in the Challis RA. For example, burrowing owls are found in relatively open, grassland and sagebrush-grassland habitats, such as those that exist as a result of wildfire or prescribed burning. Wavy-leaf thelypody is commonly found in road cutbanks and on fill slopes created as a result of road construction. The Ute ladies'-tresses orchid, a threatened plant species that may occur in the Challis RA, has been found associated with habitats heavily influenced by human activities, including irrigated pastures, irrigation ditches, and below leaky diversion dams.

(c) Your opinion is noted.

(d)Your comment is noted. The BLM believes that proposed management of forested areas would protect ecological resources.

(e) Your opinion is noted. The BLM believes that commercial timber harvest is an ecologically viable use of some forested areas in the Challis RA. Also see response 31-27.

31-120: Please see response 31-20.

31-121: Your opinions are noted.

31-122: (a) Your opinion is noted. (b) The statement you quoted was meant to convey the fact that permittees would have to do more riding, salting, and other intensive management in order to meet the stated criteria. It was there to show an impact to them. Please also see response 14-1(c).

31-123: (a) Your comments are noted.

31-124: Specific strategies for allotment management will continue to be included in activity plans such as Allotment Management Plans or Integrated Resource Activity Plans. The PRMP emphasizes watershed assessment (instead of watershed analysis or ecosystem level plans) and provides guidance for when a watershed assessment must be completed and used. The PRMP also

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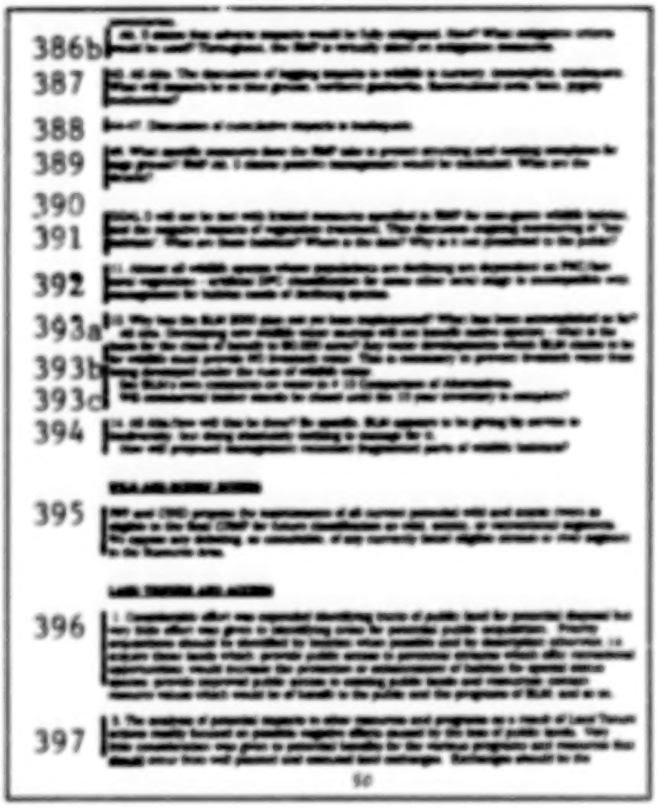
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introduces Integrated Resource Activity Plans, and clarifies when these and other plans will be appropriate.

31-125: (a) Your preference is noted. (b) The PRMP provides management emphasis for a broad range of wildlife species groups and habitats (see Wildlife Habitat, Goals 1-4). These decisions, coupled with the other decisions in the PRMP, are expected to maintain and improve habitat for the species you mention. The species you mention were not discussed on pp. 236-237 of the DRMP because the analysis in this section was focusing on the impacts of BLM's wildlife management decisions on livestock grazing, not the reverse. The effects of livestock grazing on wildlife resources are discussed in the DRMP on pages 319-320, #5-9. (c) Your comments are noted.

31-126: Your comments are noted. The BLM believes prescribed burns and water developments can be described as "wildlife management actions" when the primary objective is to provide forage or water for wildlife. For example, a number of prescribed burn treatments have been conducted in the Challis RA specifically for bighorn sheep on bighorn winter ranges. Most of these burned areas are not grazed by livestock due to steepness of slope, or because they are within areas closed to livestock use. The BLM has observed that big game animals are attracted to any area treated by prescribed burning, regardless of the original purpose of the burn. A number of water developments have also been specifically developed for bighorn sheep in the Challis RA. These developments are called "guzzlers" or "catchments" because rainwater is often the primary water source. Water developments developed for livestock are also heavily used by many species of wildlife, particularly when the water is piped into areas devoid of natural water sources. The impacts of fencing were considered, and are described in the DRMP in Chapter 4 - Wildlife, pp. 321-322, #11, 12, 15, and 16.

31-127: Your preference is noted. The PRMP would provide for consultation with the IDFG, appropriate Federally recognized tribes and other interested parties to resolve resource conflicts prior to any reintroduction of native wildlife (see PRMP, Wildlife Habitat, Goal 4, #1).

31-128: Livestock grazing is not the primary cause of noxious weed spread within the Challis RA. As noted in the Affected Environment (DRMP, p. 143), road corridors are the main areas of infestation. Also note that the PRMP (Noxious Weed Infestations, Goal 3 #1) limits the control of native poisonous plants to those circumstances where an ID team determines the need.

31-129: The BLM believes the analysis tracks with the preponderance of evidence that sagebrush species,

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although a natural feature of intermountain rangelands, is a very effective competitor for light, water, and nutrients and can become a monoculture if subordinate species are adversely impacted or removed from the site. Through improved grazing and fire management practices, sagebrush can continue to dominate the landscape, while occurring with a wide diversity of other plant species. This diverse mix of flora provides for resilient, healthy rangelands.

31-130: The paragraphs you comment on in Chapter 4 discuss impacts TO the livestock grazing program, FROM actions related to riparian and aquatic habitat management. Your opinions and preference for alternative 5 are noted. Specific closures, and/or exclosures would be discussed in detail at the activity plan level.

31-131: Your opinions and comments are noted.

31-132: Your concerns about compliance with the Clean Water Act are noted. The PRMP decision under Water Quality, Goal 1, #2 ensures that grazing activities will be designed and conducted to support State and BLM identified beneficial uses.

31-133: Your preference for Alternatives 4 and 5 is noted. Please see response 16-7.

31-134: Your opinion is noted. The BLM believes rangeland health and functioning ecosystems will be realized through proposed changes in grazing management. Area closures can be entertained on a case-by-case basis if management actions are ineffective in reaching the desired goals.

31-135: (a) Bluebunch wheatgrass is a key species on many sites throughout the Resource Area because of its growth characteristics, its palatability to grazing animals, and its wide-spread distribution. These criteria make it a true "indicator" species for the overall condition of the plant community, being the first to respond both positively and negatively to management.

(b) The DRMP, p. 130 and Table 3-21 provide some general information on the distribution of bluebunch wheatgrass. Of the sites listed, only the low elevation windswept sites, Saltbrush sites, Chicken Sage sites, riparian areas, high mountain sagebrush sites and north slope timber sites lack noticeable amounts of bluebunch wheatgrass. Given this distribution (roughly estimated at 60-70% of the Resource Area) it is virtually impossible, and not the intent, to shift livestock use to non-bluebunch sites in order to meet the utilization criteria. In addition, those areas not supporting bluebunch wheatgrass have other key species subject to the 50% utilization standard

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for plant maintenance and watershed protection.

(c) We are aware of the growth characteristics of bluebunch wheatgrass which is why we imposed very specific utilization criteria on this species. As Anderson (1991) pointed out there are many variables that may determine the effects to individual bluebunch plants; vigor, drought, competition, plant spacing, season of use, use levels, repeat utilization, timing, duration and amount of precipitation events, temperature, soil and site limitations, to name a few. The fact that the plant is still as wide-spread as it is after 100 years of grazing indicates it is resistant, to some degree, to grazing pressure. The BLM believes that by modifying grazing systems and applying use standards, bluebunch wheatgrass and other desirable species will be adequately protected and encouraged to expand to the extent of the site's potential.

31-136: (a) Your opinion is noted. It is not the BLM's intent to allow grazing in existing riparian exclosures that were developed for the purpose of establishing reference areas.

(b) As noted in the decision this analysis is based upon, a six-inch stubble requirement would be implemented until the streams are in proper functioning condition (see DRMP, p. 374, #7).

(c) Your opinion is noted.

31-137: (a) Sections 203 and 206 of FLPMA authorize disposal of public lands when certain conditions exist. Decisions concerning disposal are considered on a case-by-case basis and are pursued with the public benefit in mind. Your opinion on this issue is noted. (b) Some land tenure adjustments are intended to resolve unauthorized use situations, often associated with long-standing agricultural use of the public lands. These adjustments benefit the permittee/private landowner by allowing them to acquire public lands.

31-138: Your opinion on WSR designations is noted. When the wild and scenic river eligibility evaluation was completed, the BLM noted current uses, while determining if outstandingly remarkable (OR) values existed within each free- flowing river corridor. The OR values identified existed under current levels of use; those uses may continue on the segments found suitable or eligible for coordinated study, as long as those uses are managed to maintain the level of development that resulted in the segments' tentative classifications, to ensure non-degradation of OR values, and to protect free-flowing characteristics (see PRMP, Wild and Scenic Rivers).

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31-139: Your opinion is noted.

31-140: (a) Your opinion is noted.

(b) Your opinions are noted. The impacts of livestock grazing on recreational opportunities are described in the DRMP, pp. 257a-258b, #3 and 4.

31-141: Your preference is noted. Temporary exemptions for permittees to use motorized vehicles to access some areas would be reviewed and permitted on a case-by-case basis. Exemptions, if granted, are not expected to have adverse effects on resource values because off-road use would be infrequent.

31-142: An analysis of biodiversity and a site-specific field assessment of special status species would be part of all project planning activities (see PRMP, Biological Diversity, Goal 1, #1 and Special Status Species, Goal 2, #1).

31-143: Your opinions are noted. Please see response 14-4.

31-144: The process of assessing suitability referred to on page 104 of the DRMP differs from the suitability determinations as currently defined by BLM (see PRMP, Glossary: Suitable ranges). Those earlier procedures were wrought with problems of expense, interpretation and application. Under PRMP management direction, suitability (and capability) would be determined through utilization pattern mapping (UPM) and other resource monitoring procedures, with the appropriate interpretation and application at the activity plan level (see PRMP, Livestock Grazing, Goal 1, #2). The specified monitoring methods are approved methods outlined in BLM's Technical References TR 1734-3, TR 1734-4, and Idaho's Minimum Monitoring Standards. These monitoring activities would determine where livestock are grazing, the intensity of use, and if adverse impacts to resources are occurring.

Using monitoring to determine suitability is preferred for a variety of reasons: it is obtained from actual on-the-ground observations; it reflects and is responsive to site-specific and allotment-specific management strategies; and it is much more efficient, since it is an ongoing activity throughout the Resource Area. Furthermore, PRMP decisions (see Livestock Grazing Goal 1, #2 and 6) specify that levels of livestock use will be determined for various allotments based upon monitoring.

31-145: The stated ecological condition goals are based on current BLM policy direction (see Livestock Grazing, Goal 1, rationale statement). The goals reflect the fact that some areas will not respond quickly to improved management, and, over the life of the RMP, may not achieve the desired condition. Increasing all lands in earlier seral stages to late seral may not be consistent with biological diversity or special status species management objectives, as some plant or animal species require habitats in early or mid seral stage (see response 31-119(b)).

31-146: The PRMP contains numerous decisions which are effectively resource allocation decisions for wildlife habitat and watershed protection (e.g., see Livestock Grazing, Goal 1, #7; Riparian Areas, Goal 1, #5; Wildlife Habitat, Goal 2, #7 and 9; and ACECs, Goal 1, Cronk's Canyon, Donkey Hills, and Thousand Springs ACECs). The upland utilization criteria provide for residual herbaceous cover for sage grouse, as an example, and the riparian stubble-height criteria provide for residual cover and regrowth of herbaceous vegetation for riparian-dependent wildlife species. Virtually all decisions that allocate vegetative resources or habitat to big game directly benefit upland game birds and nongame wildlife.

31-147: A definition of "supervised trailing" has been added to the Glossary in the PRMP.

31-148: Your opinions are noted. BLM Manual Handbook H-4400-1, Rangeland Monitoring and Evaluation, provides the framework for past, present, and future monitoring procedures in the Challis Resource Area.

31-149: (a) Your recommendation is noted.

(b) The BLM disagrees with your statement that 50% utilization on key forage plants has "resulted in degraded watersheds, depleted native plant communities and unhealthy ecosystems". Where this standard has been met, healthy ecosystems and watershed stability have occurred.

(c) Early moderate grazing of current production, and grazing after seeds are ripe, has little impact on bluebunch wheatgrass vigor, production, reproduction or root reserves (Anderson, 1991).

(d) Dormant season utilization of 60% describes the upper limit allowed. Where other issues are a concern (e.g., sage grouse) the levels can be modified. Watershed protection considers total biomass, not just forage production/removal. The degree of forage defoliation affecting plant maintenance is dependent upon time of removal, regrowth, and subsequent periods of recovery or non-use, all of which are incorporated into proper grazing management decisions.

(e) Your comments are noted.

(f) Woody use standards would be considered, as necessary, at the activity plan level (see PRMP, Attachment 3).

31-150: Under Alternative 1, livestock grazing systems to improve riparian habitat were designed and implemented on a case-by-case basis, where practical. Under Alternative 2 - Preferred Alternative, specific criteria for stubble height and bank shearing would be implemented to ensure attainment of desired aquatic and riparian habitat conditions.

31-151: (a) Your comments are noted.

(b) Special emphasis on specific species' habitat requirements will be determined at the activity plan level through the ID team process. Managing for late seral to PNC uplands in good condition and properly functioning condition riparian habitats provides adequate habitat for the majority of species.

31-152: Your comments are noted. As stated in the PRMP, Livestock Grazing Goal 1, #10, the BLM would manage for late to PNC upland habitat, unless an ID team determines that some other desired plant community would better achieve multiple use objectives. In all cases, management would focus on achieving or maintaining the Idaho Standards for Rangeland Health.

31-153: Your suggestion is noted.

31-154: Your preference for Alternatives 4 and 5 is noted.

31-155: Your preference for Alternatives 4 and 5 is noted.

31-156: (a) The specific figure of 70% vegetative cover (for live vegetation and vegetative litter) referenced in the DRMP, Livestock Grazing, Goal 1 #15, page 353 was obtained from cover measurements and observations made primarily on higher elevation upland monitoring sites in the Resource Area. Lower elevation sites typically have much less vegetative cover. Rather than describing a wide range of site-specific cover objectives, it was decided to use the Ecological Site Guides published by the Natural Resources Conservation Service (NRCS) as a reference. Since these sites are site-specific for soil type, vegetation, climate and landform, BLM determined that maintaining 90% of site potential would be adequate to stabilize upland watersheds, promote water infiltration, and provide for the ecological processes necessary to meet the fundamentals of rangeland health and standards.

(b) Vegetative cover objectives would be implemented simultaneously with management to achieve the ecological condition goals stated in Livestock Grazing, Goal 1 (also see PRMP, Livestock Grazing, Goal 1, #10).

(c) The BLM believes microbiotic crusts will be adequately protected by the application of numerous decisions pertaining to livestock grazing and upland watershed health (e.g., Upland Watershed, Goal 1, #1).

31-157: Your comments are noted. The specific terms and conditions of individual grazing permits will continue to be established at the discretion of the authorized officer, in accordance with 43 CFR 4130.3. Any terms or conditions deemed necessary to add to grazing permits will also be consistent with, and/or implement the decisions in the approved Challis RMP. Please also see response 31-144 regarding suitability.

31-158: Your preference for Alternatives 4 and 5 is noted.

31-159: The PRMP incorporates the management you prefer regarding known burial sites. Please also see response 31-61.

31-160: Your opinion is noted.

31-161: Your opinion is noted. The BLM, however, disagrees that prescribed fire or vegetation manipulations are ineffective in restoring native plant communities or rangeland health (see response 31-129).

31-162: Situations which require a watershed assessment are described in the PRMP (see Attachment 5, "General" SOP #1).

31-163: Your opinion is noted. Please see response 31-129.

31-164: The categorization process is used to prioritize BLM's limited funding and staff resources. Finite budgets do not allow the BLM to work on every area simultaneously.

31-165: The PRMP has been revised in response to your comments (see Attachment 8: Design Specifications, "General" #3).

31-166: Your preference is noted.

31-167: Holistic grazing could be evaluated by an ID team as a potential knowledgeable and reasonable practice; however, any proposed knowledgeable and reasonable practice would be subject to completion of a site-specific environmental assessment and must meet other stated criteria (see Livestock Grazing, Goal 1, #7).

31-168: Your opinion is noted.

31-169: Please see response 31-28.

31-170: Your opinion is noted.

31-171: Your opinion is noted. Please see response 6-2.

31-172: Your opinion is noted. The PRMP includes decisions to conduct vegetative monitoring to determine long term stocking levels (Livestock Grazing, Goal 1, #2) and provides for reduced levels of livestock use, if necessary to achieve riparian resource objectives (e.g., see Riparian Areas, Goal 1, #7). The PRMP also emphasizes watershed assessment and integrated resource activity planning, which would ensure that other resources and land uses are considered when plans to manage livestock grazing are developed.

31-173: Your opinion is noted. The BLM is unaware of any literature or other references or studies that would suggest a 10 percent limit on woody vegetation. The riparian stubble-height and bank shearing criteria (Riparian Areas, Goal 1, #5 and 6) are expected to limit utilization of woody riparian vegetation and promote the productivity and health of shrubby riparian communities without the necessity for woody utilization limits. The BLM would prefer to establish species-specific limits on woody use at the activity planning level, if an ID team determines that use limits are necessary.

31-174: Your opinion is noted. The PRMP contains livestock grazing management decisions to maintain and improve riparian habitat condition throughout the Resource Area; this management would apply to all livestock grazing, upon signing of the Record of Decision for the approved RMP.

31-175: Your preference is noted. The BLM believes that the stubble-height standards outlined in the PRMP would result in satisfactory progress toward meeting riparian objectives (see Riparian Areas, Goal 1, #5). The BLM believes that a 6 inch stubble height standard would not be necessary to maintain streams that are already in proper functioning condition.

31-176: Your preference is noted. The BLM believes that grazing of riparian areas after the growing season would be an acceptable practice on many sites, as long as riparian stubble-height standards are met.

31-177: Your preference is noted.

31-178: Your preference is noted.

31-179: Your opinion is noted. Activity level planning will determine individual allotment monitoring and evaluation schedules.

31-180: Your opinion is noted. Please see response 6-2.

31-181: Several PRMP actions address your stated concerns; please see Livestock Grazing, Goal 1, #1 and Riparian Areas, Goal 1, #5 and 7.

31-182: Please see response 31-7a.

31-183: Please see response 31-157.

31-184: Your opinion is noted. However, this topic is beyond the scope of the RMP, since ownership of future range improvements on public land is an issue of national BLM policy (grazing regulations) which is currently unresolved. The BLM is currently operating under Interim Guidance for Implementation of the Wyoming District Court Ruling on Grazing Regulations (W.O. IM-96-138). All questions relative to range improvement ownership and other issues addressed in the ruling are to be directed to the Washington Office.

31-185: Your opinion is noted.

31-186: Timeframes for completing activity plans and watershed assessments have not been included in the PRMP to allow BLM managers flexibility in planning workloads to address highest priority resource needs. Those timeframes will be determined as part of the Implementation Plan which is developed immediately following approval of the RMP and signature of the Record of Decision. The Implementation Plan addresses at least the first five years following approval, and is modified and adjusted in response to such things as actions completed, effectiveness of actions in achieving RMP objectives, and changes in staffing and budget priorities.

31-187: Your opinion is noted. Please see response 6-2.

31-188: The BLM could not determine how the IWP wants the "Cultural Resources" comments to apply to paleontological resources. Some cultural resources comments (*e.g.*, preference for maximum acres of inventory) have no comparable proposed management for paleontological resources.

31-189: (a) The BLM does not agree there are substantial risks to the health and safety of the recreating public due to livestock grazing. The PRMP/FEIS describes how PRMP actions are expected to reduce the types of impacts mentioned in your comment (see ***Chapter 4*** - Recreation Opportunities, Visitor Use, and OHV Use). Developed recreation sites are monitored by recreation, safety and maintenance personnel for health and safety hazards on a continuous basis. The BLM also recognizes that there are inherent risks to any recreation use or activity, which if removed, would destroy the very recreational values visitors are pursuing.

(b) Aesthetic impacts of livestock grazing and range improvements were described in the DRMP on pp. 257-258, #3 and 4.

31-190: The BLM monitors all developed recreation sites through maintenance, management, and law enforcement site visits, through public input during those visits, or through correspondence with individuals and organizations. The BLM also monitors use in SRMAs and in the Extensive Recreation Management Area in much the same way, although not as often.

31-191: The following PRMP decisions would prevent proliferation of new roads to access range improvement projects: Attachment 8 - Design Specifications, Rangeland Improvement #1 and OHV Use, Goal 1, #1.

31-192: When compared with existing management, the PRMP only closes one additional area to livestock grazing (south half of the Highway Allotment); this area has no range improvements. Range improvements have been removed from areas already closed to grazing.

31-193: The PRMP limits motorized vehicle use to existing roads, vehicle ways, and trails throughout the Resource Area (see Off-highway Vehicle Use, Goal 1, #1), unless additional limitations or closures also apply. Once the Record of Decision for the approved RMP is signed, an OHV implementation plan will be developed to manage OHV use. Maps and narratives describing permissible OHV activities will be made available to the public, and signs which indicate permissible uses will be placed along travel routes.

31-194: Conflicts between livestock and recreation use in designated recreation sites would be resolved as specified in the PRMP under Livestock Grazing, Goal 1, #17. All other conflicts would be resolved on a case-by-case basis.

31-195: The PRMP contains this management - see Water Quality, Goal 1, #2.

31-196: Your opinion is noted.

31-197: Your opinion is noted.

31-198: The PRMP analysis has been revised to reflect the impacts on recreation opportunities which are expected to occur from Air Quality, Rangeland Vegetation Treatment, and Biological Diversity management decisions.

31-199: Your comment is noted.

31-200: Recreation use at developed sites is increasing much faster than primitive based recreation use. This assessment is based on visitor counts within developed sites, an increased need for site maintenance, and the general increase in RV-based recreation within the area. Primitive based recreation is growing, but not at the rate of developed recreation. This conforms with National trends, and is confirmed by observations of BLM recreation personnel. Although an increase in primitive based recreation use is expected as the population increases, this increase is likely to be insignificant.

31-201: Man is a part of the natural environment, and human-induced impacts are not necessarily negative. Projects can be designed to blend in with the natural terrain.

31-202: The PRMP limits motorized vehicle use in the RA to existing roads, vehicle ways, and trails yearlong, unless additional limitations or closures also apply (see Off-highway Vehicle Use, Goal 1, #1).

31-203: The "actions" referred to include all decisions listed in the DRMP under Management Concern: Water Quality. Beneficial uses are an aspect of water quality, and are therefore considered in the DRMP analysis on p. 260, #12.

31-204: Your opinions are noted. Please see response 31-395.

31-205: Your opinions are noted. The BLM feels proposed OHV management (see PRMP, OHV Use, Goal 1) is sufficient to protect resource values in existing WSAs and those WSAs if released from wilderness review. Proposed management is consistent with the Interim Management Policy and Guidelines for Lands Under Wilderness Review, p. 47, #11 (July 5, 1995).

31-206: Your opinion is noted. The "disturbance and treatments" mentioned under the Alternative 5 analysis do not necessarily refer to timber harvest; treatments to mimic natural events could include prescribed natural fire. Please note that the PRMP sets aside old growth timber stands for wildlife and associated (*e.g.*, bird-watching) purposes. Please also see response 31-51.

31-207: Location of a hiking, biking and/or OHV trail would be identified at the activity plan level, based on

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resource and allocation needs. Impacts of the proposed action would be analyzed during the NEPA process.

31-208: Your preference for Alternative 5 is noted. Please see response 31-202.

31-209: Your opinion is noted.

31-210: Your opinion is noted.

31-211: The BLM agrees microbiotic crusts are an important element in the health and function of the soil resource; the PRMP adds mention of microbiotic crusts as a crucial element to consider when evaluating new soil disturbing actions (see Upland Watershed, Goal 1, #1). Additional PRMP decisions support resource conditions which are indicators of and encourage stable, thriving microbiotic crust populations. PRMP goals and management decisions are directed at stabilizing soil erosion (Livestock Grazing, Goal 1, #10 and 14; Upland Watershed, Goal 1 and decisions #1, 2, 4, 5, 6,1 0, and 11), obtaining high seral stage upland plant communities (Livestock Grazing, Goal 1 and decision #10), and obtaining healthy, functional upland watersheds (Livestock Grazing, Goal 1, #10 and Upland Watershed, Goal 1). An analysis of impacts on microbiotic crusts has also been added to the PRMP (see Chapter 4 - Soils).

31-212: Microbiotic crusts contribute to the process of nutrient cycling in concert with the distribution of vascular plant species, plant and other organic residues (*e.g.*, dung), soil invertebrates and bacteria, atmosphere, and climate. The effects of management actions on nutrient cycling were not specifically analyzed in the DRMP; however, effects on upland health and function, which includes nutrient cycling as a component, were adequately analyzed in Chapter 4 (see DRMP, Soils, #6, pp. 268-269; Vegetation #2, 5, and 9, pp. 278-279; and Water Resources, #5 and 6 pp. 292-293).

31-213: Please see response 31-82.

31-214: The DRMP also focused on upland soils resources - see Management Concern: Upland Watershed, Goal 1, #2, 4-7, 10 and 11 (pp. 267-268) and Management Concern: Livestock Grazing, Goal 1, #6, 10 and 15 (pp. 352-353). Impacts of DRMP decisions on uplands were analyzed in Chapter 4: see Soils, #1, 4-6, 21, pp. 267-269, 272 ; Vegetation, #1, 2, 4-6, 8 and 9, pp. 278-279; and Water Resources, #1, p. 291. This emphasis has been carried forward in the PRMP/FEIS.

31-215: Your opinion is noted. The PRMP has been revised to place greater emphasis on watershed assessment (see PRMP, Attachment 5: SOPs, General SOP #1). The DRMP soils information is primarily from data collected on a watershed basis; see Chapter 3, pp. 110-121 and p. 149, Table 3-31.

31-216: The DRMP does not contain or analyze any quantitative soil erosion data. This is largely due to a lack of useable soil erosion models that can be applied to rangeland environments. The qualitative analysis of the soils resource beginning on page 267 is accurate in summarizing an overall reduction in soil erosion, given the surface protection measures proposed in the preferred alternative.

31-217: Your opinion is noted. The BLM does not feel desertification is an issue in the Challis Resource Area. The characteristics described in the referenced *Desertification of the United States*, Council on Environmental Quality, 1981 by David Sheridan are largely non-existent in the Resource Area. PRMP actions (see Livestock Grazing, Upland Watersheds, Fisheries, and Water Resources) are adequate to nullify any threats of desertification.

31-218: Management of the soils resource is an integral part of the DRMP (*e.g.*, see Management Concerns: Livestock Grazing, Upland Watershed, Riparian Areas, Fisheries). Impacts to the soil resource were analyzed in Chapter 4 (DRMP, pp 267a-276a). The Soils, Vegetation, and Water Resources analyses adequately describe the effects of the management decisions in attaining the fundamentals of rangeland health and meeting Idaho's Standards.

31-219: Rangeland monitoring (both quantitative and qualitative) includes numerous procedures designed to monitor the health of the vegetation (nested frequency, cover, vigor plots) and soils resources (apparent trend, soil surface factor ratings). The intensity and priority of monitoring will be included in the implementation plan developed upon the signing of the Record of Decision for the approved RMP.

31-220: Your opinion is noted. The BLM believes no reasonably foreseeable effects would occur from decisions listed under Wildlife Habitat Management, Water Quality, WSR, Visual Quality, and Cultural Resources Management.

31-221: The BLM believes current soil loss would not increase and would, in fact, be reduced through the application of management described under the preferred alternative.

31-222: (a) The BLM disagrees that livestock grazing and range improvements are irreversible and irretrievable commitments of the soil resource. The BLM believes the DRMP analysis of Alternative 2 stated in Chapter 4 - Soils, #1b (p. 267a) is correct, because the proper management of forage use, vegetation and ground cover provided for by RMP decisions will adequately protect the soil. Range improvements require interdisciplinary team involvement and NEPA compliance designed to avoid resource impacts. In addition, Livestock Grazing, Goal 2, #8 page 355, Upland Watershed, Goal 1, #2, and Attachment 8: Design Specifications by Alternative, "General" #2 (p. 465) and "Rangeland Improvement" (pp. 468-469) outline specific protective measures to mitigate ground disturbing activities.

(b) Please see response 31-216.

31-223: Your opinions are noted. The PRMP/FEIS expands the analysis of impacts from livestock grazing and range improvement decisions. The BLM believes the PRMP's livestock grazing management for upland and riparian areas would prevent the types of impacts you describe.

31-224: Your opinion is noted. Research, specifically Clary and Webster (1989) and Myers (1989), has indicated that improvement in floodplain development and desirable vegetation is likely with 6" stubble heights and the accompanying "low impact" grazing conditions. Monitoring results obtained within the Resource Area also support this concept (see response 20-11).

31-225: Your opinions are noted. However, the BLM feels the impact analysis is adequate. The PRMP's livestock grazing management for upland and riparian areas would prevent the types of impacts you describe.

31-226: Fire does impact microbiotic crusts, as well as all micro-organisms living in the surface soils. The manner and extent of those impacts would vary site specifically and would be assessed in an Environmental Assessment at the activity planning or project implementation phase.

31-227: The analysis of impacts assumes successful implementation of the decisions as stated (see DRMP, p. 177, "Assumptions"); *i.e.*, that the decisions will support the stated goals. Management Concern: Vegetation Treatment Projects, Goal 1, #5 (DRMP, p. 365) requires that standards for vegetation treatment success be established during project planning. These standards must be met before grazing is allowed in the treated area. Soil stability would be evaluated as described in response #31-219 above.

31-228: (a) Timber harvesting activities may have an adverse effect on the soil resource; however, adverse effects on soils are expected to be minimal (see PRMP, Chapter 4 - Soils, #21). (b) No reasonably foreseeable impacts to soils from land tenure actions are expected. Please also see response 31-220. (c) Cumulative impacts to soils resources were described in the DRMP - see pp. 275-276.

31-229: The footnote to Table 3-21 explains that the Big Lost-Mackay vegetative inventory also included the Big Lost area of the Idaho Falls District - BLM.

31-230: Water related issues were identified by the public as a major issue to be dealt with in the RMP. For this reason, the RMP places substantial emphasis on the management of riparian areas. Data on uplands are included in various sections of the Affected Environment; for example, see the PRMP, Chapter 3 - Fire Management; Forest Resources; Livestock Grazing, "Rangeland Inventory" and "Rangeland Monitoring and Evaluation"; Soils; and Vegetation. Please also see response 31-214.

31-231: Isolated upland springs and seeps would be managed in accordance with decisions directed toward upland vegetation and watershed management. Springs and seeps within stream riparian areas would be managed as part of the riverine system.

31-232: Your opinions and comments are noted. Table 3-23 mentions the importance of the listed woody vegetation species to non-big game wildlife such as "beaver" and "small mammals and songbirds."

31-233: Your comments are noted.

31-234: The need for these inventories is noted in the PRMP. See Special Status Species Goal 1 and Goal 2 for decisions relating to inventories and actions to protect these species.

31-235: The PRMP proposes actions to (a) prevent weed infestations by limiting surface disturbance and revegetating disturbed areas when they occur, and (b) apply integrated pest management to control noxious weed infestations (see Glossary).

31-236: The BLM agrees that healthy microbiotic soil crusts will help limit the spread of noxious weeds. The PRMP decision stated in Upland Watershed, Goal 1, #1 emphasizes consideration of impacts to microbiotic crusts.

31-237: The PRMP/FEIS adds an analysis of impacts to microbiotic crusts, where appropriate (*e.g.*, see Chapter 4 - Soils). An analysis of impacts to microbiotic soil crusts would also be completed during project planning, as individual activities are designed.

31-238: The PRMP has been revised, where appropriate, to clarify the intended emphasis on native vegetation (*e.g.*, see Attachment 8: Design Specifications, "General" #3). Livestock Grazing, Goal 1 (goal statement) and Goal 1, #10 describe the RMP's goals for ecological condition.

31-239: Please see response 31-100. The BLM agrees that the Challis RA has many sites that have the potential to experience invasion by cheatgrass. However, as noted in Chapter 3 - Fire Management (DRMP, p. 72), fire activity in the Challis RA due to unplanned ignitions is low. The potential for cheatgrass invasion through wildfire is therefore not considered to be significant. PRMP decisions have been revised to increase consideration of the potential for cheatgrass invasion (*e.g.*, see Fire Management, Goal 1, #7; Rangeland Vegetation Treatment Projects, Goal 1, #2; and Attachment 8: Design Specifications, "General" #2). The discussion of environmental consequences has also been revised, where appropriate, to describe how PRMP actions are expected to mitigate the potential for cheatgrass invasion (see PRMP, Chapter 4 - Soils, #16; Vegetation, #17; and Water Resources, #16).

31-240: The PRMP recognizes the importance of sagebrush as a component of the Potential Natural Community. For this reason, the decision under Livestock Grazing, Goal 1 #10 to manage for Potential Natural Community was chosen, restrictions were placed on sagebrush treatment in antelope or sage grouse winter ranges and sage grouse strutting grounds (see Attachment 8: Design Specifications, "Rangeland Improvement" #2), and the PRMP emphasizes native species, including shrubs, if appropriate, in seed mixes (see Attachment 8: Design Specifications, "General" #3).

31-241: The BLM agrees that fire may have positive or negative impacts to bunchgrass ranges.

31-242: The circumstances under which vegetation manipulations would occur are expected to vary among sites. Objectives for each site would be identified during activity planning.

31-243: Your recommendation is noted. Any proposed vegetative treatment would be analyzed by an interdisciplinary team (see PRMP, Rangeland Vegetation Treatment Projects, Goal 1).

31-244: Vegetation goals are stated in the PRMP under Livestock Grazing, Goal 1 (see also decision #10 under that goal).

31-245: The PRMP proposes full suppression of all wildfires in the Resource Area, unless a fire management activity plan has been completed for a conditional suppression area (see Fire Management, Goal 1, #1-4). This activity plan would address specific concerns relating to invasion of cheatgrass, etc.

31-246: Watershed assessment (see PRMP, Glossary) is not expected to delay necessary management action.

31-247: Your opinion is noted. The BLM asserts no reasonably foreseeable impacts to vegetation resources would be expected from Water Quality, Visual Quality, and Cultural Resources decisions contained in the PRMP.

31-248: These criteria include specific establishment success standards and post-treatment management designed to help ensure treatment success. The BLM recognizes that not every treatment can be successful, but the criteria are designed to maximize the chance for success.

31-249: The effects of livestock grazing on vegetation structure and associated wildlife are described in the PRMP in Chapter 4 - Biological Diversity, #19 and Chapter 4 - Wildlife Habitat, #19-22.

31-250: Please see responses 31-1 and 31-76(d).

31-251: Your opinion is noted.

31-252: Your opinion is noted. This decision was written to ensure watershed cover (*e.g.*, perennial plants, annual plants, rock, litter) exists to protect the ground surface from the direct impact of water droplets. Other RMP decisions address other aspects of rangeland health and vigor, such as ecological condition goals.

31-253: (a) The PRMP emphasizes watershed assessment and integrated resource activity planning, rather than watershed analysis, ecosystem level planning, or AMPs (see PRMP/FEIS: Glossary - watershed assessment; Attachment 2: Procedures Used When Developing or Revising Activity Plans; and Attachment 5: SOPS, "General" SOP #1). Although AMPs consider resource and use needs other than livestock grazing, they are restricted to the area within grazing allotment boundaries. Integrated resource activity planning would provide the opportunity to define the planning boundary in whatever way is most appropriate for the issues to be addressed. Watershed assessments would be completed under the circumstances described in "General" Standard Operating Procedure #1 (see PRMP: Attachment 5).

(b) The PRMP revises all references to the AIE process to say "allotment analysis."

31-254: Your opinion is noted. This statement (DRMP, Chapter 4 - Vegetation, #11, p. 280) analyzes the DRMP decision under Livestock Grazing, Goal 2, #4. Please note that additional AUMs from these sources could be allocated for livestock grazing use only after resource management objectives for the allotment have been met.

31-255: Please refer to the decisions upon which this analysis is based (see DRMP, Management Concern: Livestock Grazing, Goal 2, #2, p. 354). The prescribed burns would be done to achieve different objectives under the different alternatives; therefore, the actions would result in different outcomes.

31-256: BLM agrees that wild horses can trample microbiotic soil crusts as well as vegetation. See PRMP, Chapter 4 - Soils, #8 and Vegetation, #13.

31-257: The headings in the left column refer to Management Concerns listed in Volume 2, Table 2-1: Management Decisions by Alternative.

31-258: See response 31-253 above. Integrated resource activity plans may still be completed for planning areas which are defined by allotment boundaries; however, the required watershed assessment and activity plan would focus on multiple resource concerns, rather than just livestock grazing.

31-259: Your opinions are noted.

31-260: Projected impacts of a proposed vegetation treatment project would be completed on a site-specific basis during the planning phase for the project. Establishment success standards for a project must be met before grazing is allowed in the treated area (PRMP, Rangeland Vegetation Treatment Projects, Goal 1, #4).

31-261: This portion of the environmental consequences refers to the decision under Management Concern: Riparian Areas, Goal 1, #5 that states that livestock use in all streams with riparian vegetation would be limited to supervised trailing. This analysis was meant to describe that if such a limitation were in effect, the use of entire pastures or allotments could be affected, since some pastures or allotments could not be grazed at all if such a limitation were imposed. Therefore, the impact to upland vegetation would be significant, but positive. Under the PRMP, the BLM would manage livestock use on upland sites through implementation of utilization criteria. Livestock would be removed when prescribed utilization levels have been met. Thus, no significant adverse effects on upland vegetation would be expected. No change was made to clarify the analysis, since Alternative 5 was not selected in the PRMP.

31-262: The analysis has been revised in the PRMP to describe the environmental consequences of constructing range improvement projects when and if WSAs are released from wilderness review. The BLM recognizes range improvement projects as an accepted and appropriate method of managing livestock use and distribution on the public lands.

31-263: Numerous criteria in the PRMP would protect vegetation from the adverse impacts of mineral development (see PRMP decisions - Minerals; Attachment 5: SOPs, "Minerals"; Attachment 8: Design Specifications, "Minerals"; and Attachment 10: Minerals Stipulations). The PRMP has been revised to describe the nature of vegetation impacts which would result from mineral material sales or locatable mineral development activity, if those development activities were to occur.

31-264: Please see response 31-202.

31-265: Your preference for closure of the Herd Creek Allotment is noted. The BLM would manage livestock use on upland sites through implementation of utilization criteria. Livestock would be removed when prescribed utilization levels have been met (see PRMP, Livestock Grazing, Goal 1 #7). Thus, no significant adverse effects on upland vegetation would be expected.

31-266: Your opinion is noted. This analysis has been revised slightly in the PRMP.

31-267: Your comments are noted.

31-268: Your opinions are noted. Habitat acquired for riparian or floodplain protection, salmon, steelhead, or bull trout fisheries, or other special values would be managed for the purposes for which it was acquired (see PRMP, Land Tenure and Access, Goal 1, #4). Livestock grazing would be permitted if found to be compatible with these purposes.

31-269: The standards referred to on page 284, #36 are found in Attachment 15, page 496.

31-270: This analysis occurs in the riparian vegetation section of the vegetation analysis, so limiting the discussion to beaver is appropriate. The potential effects of any reintroductions would also be addressed in a site-specific environmental assessment, as required by BLM Manual direction.

BLM Response to Letter No. 31 *continued*

31-271: As noted in the decision that this analysis is based on (see DRMP, *Management Concern: Fire Management*, Goal 1, #7, p. 370), the purpose of these prescribed fires would be to enhance ecosystem health and function and biodiversity. Fires that would damage riparian communities would not be done under these criteria.

31-272: Your opinion is noted. As stated in the DRMP analysis, the actual amount of land that would be transferred out of public ownership would be anticipated to be much lower than 63,075 acres. The impacts of transfer of any land would be addressed in a separate environmental analysis.

31-273: Your opinion is noted. PRMP decisions (see *Attachment 8: Design Specifications*, "General" #2) require all ground disturbing activities undertaken by the BLM to meet certain design specifications to limit the spread of noxious weeds.

31-274: The cumulative effects discussion considers known or reasonably foreseeable activities on adjacent lands, **together with** management proposed in the PRMP for BLM-administered lands, to determine the overall effect of all those actions. The BLM is unaware of any proposal in the PRMP to conduct a prescribed burn on poor condition range in watersheds with non-functioning streams.

31-275: Vegetation goals are stated in Livestock Grazing, Goal 1. The PRMP contains a decision to manage for late seral or Potential Natural Community to meet those vegetation goals (see Livestock Grazing, Goal 1, #10).

31-276: The Glossary definition of the interdisciplinary (ID) team planning process (DRMP, p. 572) clearly states that members of the general public or specialists from outside groups or agencies may be asked to participate with ID teams.

31-277: Your opinions are noted. See responses 31-229 and 31-275.

31-278: It is unclear what type of documents you are seeking. The discussion of upland communities in Chapter 3 (DRMP, pages 130-132) provide an overview of upland vegetation suitable for an analysis of impacts at an RMP level. Anyone interested in a greater level of detail can contact the BLM for more information.

31-279: Your opinions are noted.

31-280: Your comments are noted.

31-281: The proposed Visual Resource Management (VRM) Class changes described in the DRMP, Alternatives 2 through 5, are based on an evaluation of the current visual values and characteristics of the Resource Area **and** the land use allocations, resource condition objectives, and management actions proposed under a given alternative. The BLM recognizes the importance of protecting the high visual values on public lands and has responded by dramatically increasing the acreage in the VRM Class II category (see PRMP: Visual Resources, Goal 1, #1). Conversely, VRM Class III acreage has been reduced significantly and Class IV acreage has been eliminated altogether.

31-282: A visual simulation is a "realistic visual portrayal which demonstrates the perceivable changes in landscape features caused by a proposed management activity. This is done through the use of photography, artwork, computer graphics and other such techniques." (BLM Manual 8400, April 5, 1984, Glossary, p. 5)

31-283: See response 31-23.

31-284: A definition of VRM classes, including the objectives of each and permissible levels of change, is included in the Glossary (see Visual Management Classes). Each of the activities you describe, if proposed, would be considered in accordance with the VRM classification which applies in the proposed project area.

31-285: The analysis is considering the positive effects of "modifying fire suppression practices" in order to better protect the visual landscape. This is done through "light on the land" techniques --more sensitive placement of fire suppression staging areas, fire camps, fireline placement and use of different types of equipment (*e.g.*, using a handline instead of bulldozer lines). Also see response 31-289 below.

31-286: Your opinion is noted.

31-287: Your opinion is noted.

31-288: Your comment is noted. The PRMP substantially increases the acreage which would be designated as VRM Class II and decreases the acreage designated as VRM Class III.

31-289: A natural appearing landscape sometimes has evidence of fire mixed in the total viewshed, just as a natural appearing landscape does not have to be aesthetically pleasing. To expect a landscape to be burn scar free is unrealistic and actually evidence of man's interference with natural processes.

BLM Response to Letter No. 31 *continued*

31-290: VRM Classes would not be affected or changed by activities, since the Class merely describes management objectives and constraints within a specified area.

31-291: Updated information on riparian condition and water quality trends has been included in the PRMP (see Chapter 3 - Water Resources). The 1997 water erosion susceptibility ratings were derived from soil survey data and physical features such as topography and geology, and are not likely to change over time. A standard operating procedure (SOP) describing when a watershed assessment would be required as been added to the PRMP (see Attachment 5, "General" SOP #1).

31-292: Your opinion is noted.

31-293: Water Quality Limited segments are not determined by the BLM; they are designated by the Idaho Department of Environmental Quality.

31-294: Priority for minimum streamflow acquisition in order to improve or maintain fish and riparian habitats would be determined as described in the PRMP, Attachment 14: Procedures for Minimum Streamflow Application, #2.

31-295: Your opinions are noted. The BLM believes no reasonably foreseeable impacts to water resources would occur from the PRMP's Cultural Resources, Visual Resources, or Wildlife Habitat decisions.

31-296: The BLM believes the proposed upland utilization and riparian stubble height standards would improve water storage and flood attenuation attributes. Your preference for Alternatives 4 and 5 is noted.

31-297: Please see response 31-291.

31-298: Your opinions are noted. Range improvements are a tool in livestock management. Rather than supporting artificially high numbers of livestock, they help ensure proper, uniform use of the range resource.

31-299: See response 31-83.

31-300: Once the Record of Decision for the Challis RMP is signed, the Procedure for Nonpoint Source Consistency Review will be applied in the Challis Resource Area as described in the PRMP under Water Quality, Goal 1, #3 and Attachment 12. This management decision is not current management (Alternative 1), so it would not be appropriate to apply this process in order to develop the stream-by-stream summary of information you request. Site-specific management to address non-point source pollution is developed through the interdisciplinary team or activity planning process, rather than described in a general planning document such as an RMP.

31-301: The BLM agrees that climate is a primary factor in fire occurrence and behavior. However, the BLM believes the analysis on page 295, DRMP, is still appropriate; by managing and distributing fuels and promoting small, controlled fires the potential for large fires is reduced. Also see response 31-100.

31-302: A site-specific analysis would be done when/if new roads or upgrades are proposed. A general Resource Area-wide analysis of road construction impacts is described in Chapter 4 - Water Resources, #17 (DRMP, pp. 296a/b). The PRMP provides management direction for new road construction and improvement of existing roads (*e.g.*, see Transportation, Goal 1, #6, 7, 8 and 9).

31-303: The BLM analyzed the impacts of proposed forest resource management on a Resource Area-wide basis and determined no significant impacts to water resources would occur. The PRMP analysis has been clarified (see Chapter 4 - Water Resources, #21).

31-304: Your opinion is noted.

31-305: Your opinion is noted.

31-306: Your opinion is noted. See response 20-11.

31-307: Your opinion is noted.

31-308: Management Concern: Riparian Areas, Goal 1, #6 has been re-written in the PRMP.

31-309: A definition of "supervised trailing" has been added to the glossary for the PRMP.

31-310: See response 31-175.

31-311: Your opinion is noted. The PRMP provides for the use of fencing to protect and improve the condition of springs and seeps (see Attachment 5: SOPs, Rangeland Improvements, #4 and 8). The PRMP would not preclude the interdisciplinary planning team from implementing other knowledgeable and reasonable practices (*e.g.*, rest-rotation and deferred-rotation grazing) to maintain and improve vegetation around springs and seeps.

31-312: Your preference is noted.

31-313: Your comment is noted.

31-314: Your opinion is noted.

BLM Response to Letter No. 31 *continued*

31-315: Your comment is noted.

31-316: Your opinion is noted. Riparian Areas, Goal 1 does not preclude greater achievement or more improvement ("75% *or more* ..." [emphasis added]). Rather, it sets a reasonable target for a five year timeframe.

31-317: Your opinion about Riparian Areas, Goal 2, [#1?] is noted. The information available to the BLM at the time the Draft RMP was published is shown in Appendix J, Item 1 (DRMP, pp. 557-561). Designated beneficial uses and a stream's support of them are determined by the State of Idaho, not the BLM. However, for the purposes of management, the Challis Resource Area has completed a tentative identification of beneficial uses on many stream segments within the Resource Area which have not yet received State determination of beneficial uses (see Appendix J, Item 1). Riparian Areas, Goal 2, #1 has been clarified in the PRMP to reflect that the BLM still desires to determine beneficial use support status on BLM-identified segments.

31-318: Your opinion is noted.

31-319: Your interpretation is incorrect. This section of the PRMP is intended to provide guidance on the management of WSAs **if** Congress releases them from wilderness review. The BLM cannot release the WSAs; only Congress has that prerogative. The BLM's wilderness recommendations were previously submitted to Congress by the President in 1991.

31-320: The present condition of each WSA was described in Chapter 3 of the DRMP (see pp. 153-157). The BLM believes that the wilderness values within WSAs have not been impaired since the WSAs were designated by the BLM State Director in 1980. The management proposed in the Challis PRMP is consistent with BLM policy to manage existing WSAs under BLM's Interim Management Policy and Guidelines for Lands under Wilderness Review (as revised, July 5, 1995) until Congress releases them from wilderness review (see PRMP, WSAs - Management if Released from Wilderness Review, Goal 1, #1).

31-321: Livestock grazing was mentioned as one of several *authorized* uses within the WSAs (DRMP, p. 154), and the description of each WSA describes livestock management-related intrusions (DRMP, pp. 155-157). Livestock grazing use in existing WSAs has remained essentially the same since designation. The Interim Management Policy and Guidelines for Lands under Wilderness Review (BLM, 1995) states that grazing is a "grandfathered" use and may therefore continue in the "manner and degree" of the date of approval of FLPMA "even if this impairs wilderness suitability." The PRMP proposes livestock management decisions which would continue authorized livestock use in WSAs, but manage grazing activities so as to improve resource conditions where appropriate.

31-322: Your opinions are noted. The PRMP provides for restrictions on minerals activities within ACECs/RNAs and WSAs (see Minerals, Goal 1, #4 and 5; Goal 2, #4 and 5; and Goal 3, #3 and 4).

31-323: Please see responses 31-202 and 31-205.

31-324: The DRMP considered and assessed the closure of some special management areas to livestock grazing. The PRMP closes six ACECs to livestock grazing (Cronk's Canyon, East Fork Salmon River Bench, Malm Gulch/Germer Basin, Summit Creek, Sand Hollow), has special restrictions on livestock grazing in three additional ACECs (Thousand Springs, Donkey Hills, Birch Creek), and closes all designated recreation sites to livestock grazing (some recreation sites are in SRMAs). The remaining special management areas or portions of special management areas would remain open to livestock grazing, because the BLM has determined that livestock grazing in those areas in accordance with PRMP decisions would not impair special management area values.

31-325: Your opinion is noted. PNC is the management goal for rangeland sites on the entire Resource Area, including WSAs, unless an ID team determines another desired plant community would be better (see PRMP, Livestock Grazing, Goal 1, #10).

31-326: Please see response 31-40(b).

31-327: The PRMP's proposed management of vegetation manipulation in WSAs is consistent with current BLM policy for management of WSAs (Interim Management Policy and Guidelines for Lands under Wilderness Review, July 5, 1995, p. 39) - see PRMP: WSAs - Management if Released From Wilderness Review, Goal 1, #1.

31-328: All WSAs would continue to be designated as VRM Class I, in accordance with BLM policy (see DRMP, Maps 43 - 46).

31-329: The BLM provided the Secretary of Interior with the BLM's recommendations for wilderness designation in the Challis Resource Area just prior to the start of the RMP planning process. Approved planning criteria for the RMP state that no additional WSAs will be proposed for designation in the RMP, and no additional acreage will be recommended to Congress as suitable for Wilderness inclusion (DRMP, p. 13).

BLM Response to Letter No. 31 *continued*

31-330: Your preference for Alternative 5 is noted.

31-331: Upland utilization and riparian stubble height standards for livestock grazing would apply throughout the Resource Area, including the HMA. If unacceptable levels of resource degradation are occurring due to wild horse use, wild horse numbers would be adjusted to a lower appropriate management level by gathering (see PRMP: Wild Horses and Burros, Goal 1, #1).

31-332: The Wild Free-Roaming Horse and Burro Act of 1971 (16 U.S.C. 1331-1340) did not define a "thriving natural ecological balance." The Challis Resource Area interprets this phrase to include all of the vegetation attributes and ecological processes that define a healthy rangeland. The impacts of livestock grazing on wild horses and the Herd Management Area are discussed on pages 306-308 and 313-315 of the DRMP.

31-333: Please see response 31-82.

31-334: The BLM considered closing the HMA to livestock grazing; however, livestock grazing was found to be compatible with wild horse management within the Herd Management Area. The RMP closes portions of the HMA to livestock grazing for the protection of the indicated values: Sand Hollow area (watershed), Malm Gulch area (watershed), East Fork Salmon River Bench (ACEC), and all areas of known human burial concentrations (cultural resources).

31-335: The DRMP assessed the disturbance and habitat impacts to wild horses of closing portions of the HMA to OHV use and limiting OHV use on the remainder of the HMA to existing roads, vehicle ways, and trails (DRMP, p. 312, #37, Alternative 5 and p. 317, #65, Alternative 5). The BLM considered closing the HMA to OHV use, but determined that wild horse habitat and populations would be adequately protected from disturbance impacts by proposed OHV management (see PRMP: OHV Use, Goal 1 and Chapter 4 - Wild Horses and Burros, #1, 32 and 59).

31-336: Your opinion is noted. PRMP decisions would decrease wild horse - livestock competition by changing livestock grazing management in the wild horse HMA (see Chapter 4 - Wild Horses and Burros).

31-337: Your opinion is noted. The PRMP allocates forage for wild horses and also recognizes them as part of the environment of the area. If unacceptable levels of resource degradation occur due to wild horse use, wild horse numbers could be adjusted as stated in the PRMP (see Wild Horses and Burros, Goal 1, #1).

31-338: We assume you mean "the HMA" instead of "WSAs." The DRMP describes impacts to wild horses and the HMA from Fire Management and Noxious Weeds Infestation decisions, and also describes cumulative impacts. The BLM believes no reasonably foreseeable impacts to wild horses or wild horse habitat would occur from Air Quality, Cultural Resources, Water Quality, or WSR decisions.

31-339: Your preference for Alternative 4 is noted. Stocking rates for allotments within the HMA would be established as stated in the PRMP under Livestock Grazing, Goal 1, #2 .

31-340: See response 31-339 above.

31-341: Your preferences are noted.

31-342: Your preference for Potential Natural Community rather than some other Desired Plant Community is noted. There is no typographical error in this section.

31-343: The BLM disagrees. Land treatments can be used to improve habitats within the Herd Management Area as well as other areas within the Resource Area.

31-344: This section analyzes impacts *to* wild horses and wild horse habitat *from* the decisions listed under Management Concern: Wildlife Habitat Management.

31-345: Your preference for Alternative 5 is noted. Please see response 14-4.

31-346: Your comments are noted. Wild horses could be removed to protect fragile watersheds, and wild horse management could be adjusted if impacts are inconsistent with attaining desired riparian and aquatic habitat conditions or otherwise causing unacceptable resource degradation (see PRMP, Wild Horses and Burros, Goal 1, #1, 3 and 7).

31-347: Your comments are noted. The BLM believes rehabilitation objectives for areas affected by fires and fire suppression activities can best be established on a site-specific and incident-specific basis.

31-348: These analyses would be done when and if an activity plan for conditional fire suppression within the HMA is developed (see PRMP: Fire Management, Goal 1, #2) or during the project planning phase for a prescribed burn proposal.

31-349: Your opinion is noted.

31-350: (a) Please see responses 31-205 and 31-335. (b) Please see response 31-336. (c) Please see response 31-337.

31-351: Your opinion about the effects of livestock water developments on wildlife is noted. BLM believes that livestock water developments affect many wildlife species in much the same way they affect livestock. Developing a water source (such as a trough at the end of a long pipeline) in an otherwise dry area of rangeland will often attract and hold wildlife in an area they would not otherwise frequent. Big game and small birds are some of the more common species observed using livestock troughs.

31-352: Your opinion is noted.

31-353: Your statements about wildlife and huntable big game species are noted. The Proposed RMP/Final EIS addresses wildlife other than big game in numerous places. For example, please see PRMP decisions: Biological Diversity, Goal 1, Special Status Species, Goals 1 and 2, and Wildlife Habitat, Goals 2 and 3; Chapter 3 - Biological Diversity and Wildlife Habitat; and Chapter 4 (all resource analyses). The term wildlife (see Glossary) is used throughout the PRMP/FEIS, and particularly in the analysis of Environmental Consequences. Generically, the term refers to the majority of wildlife species collectively, except where other species or species groups are specifically identified.

31-354: The BLM agrees that wildlife habitat requirements are more complicated than forage. The BLM disagrees that the terms "forage" and "competition" are used improperly in the analysis. Please refer to the Glossary definition of "competition."

31-355: Please see response 31-3.

31-356: Your opinions are noted. The BLM disagrees that "course-filter approaches...." are essential to the implementation of the RMP. The BLM also disagrees that no evaluation of habitat condition was conducted as part of the RMP process. Existing rangeland monitoring studies and rangeland ecological site inventories (ESI) provide invaluable information that was used to infer habitat conditions for wildlife. Appendix L: Summary of Studies - Challis Resource Area (see PRMP Appendices) lists other inventories and studies that were used by BLM resource specialists to evaluate habitat conditions for wildlife.

31-357: Your opinions are noted. The BLM does not believe that an *"evaluation of mechanistic relationships"* is an essential analysis at the RMP level of planning. If deemed appropriate, some of the evaluations you mention may be considered during project or activity planning. The PRMP identifies site-specific limitations on human disturbance in specific habitat areas for a number of wildlife species and species groups (*e.g.*, see Wildlife Habitat, Goal 1, #6 and Goal 2, #6, 8, 9, and 11) and standard operating procedures to protect habitat for and populations of special status species (see Attachment 5, "General" SOPs #3 through 5).

31-358: Your opinion is noted. The BLM agrees that data on biodiversity are limited. The PRMP provides direction to increase knowledge of biodiversity at all levels (see Biological Diversity, Goal 1). The PRMP also designates several areas "of particular ecological uniqueness or species richness" as ACECs or ACEC/RNAs.

31-359: The PRMP provides direction for increasing knowledge of biodiversity (see Biological Diversity, Goal 1) and managing habitat for sensitive species so they will not become listed as threatened or endangered (see Special Status Species, Goals 1 and 2 and Attachment 5, "General" SOPs #3-5).

31-360: Your opinion is noted. The BLM had sufficient knowledge about wildlife to complete an analysis of impacts from the proposed management decisions by alternative (see DRMP, pp. 318-331).

31-361: The number of pages devoted to discussion of big game, nongame, and special status wildlife in the Affected Environment does not reflect the amount of emphasis the PRMP would place on management of these species; it merely reflects that more data and information are available on big game species. The PRMP provides direction to improve the BLM's knowledge of nongame wildlife in the Challis RA (*e.g.*, see Wildlife Habitat, Goal 2, #1 and 9(b), and Goal 3, #2; and Special Status Species, Goal 1, #1-5 and Goal 2, #1) (also see response 31-3).

31-362: Your opinions are noted. PRMP decisions would improve the BLM's knowledge of special status wildlife in the Challis RA (see Special Status Species, Goal 1, #1-5 and Goal 2, #1). Also see response 31-3.

31-363: (a) Please see responses 31-52 and 31-53. (b) Many special status species are ***known*** to use and depend upon early-seral and mid-seral habitats in the Challis RA. For example, burrowing owls are found in relatively open, grassland and sagebrush-grassland habitats, such as those that exist as a result of wildfire or prescribed burning. Wavy-leaf thelypody is commonly found in road cutbanks and on fill slopes created as a result of road construction. The Ute ladies'-tresses orchid, a threatened plant species that may occur in the Challis RA, has been found associated with irrigated pastures, irrigation ditches, and leaky diversion dams. The best habitats for many special status species are those in late-seral status or PNC; however, many species can meet their life cycle requirements in early and mid-seral habitats as well.

31-364: The PRMP's emphasis on watershed assessment (see PRMP: Glossary and Attachment 5, "General" SOP #1) would ensure a broad-based look at the needs of wildlife and other resources prior to any major action.

31-365: Visual resource management actions may have some limited potential to maintain undisturbed wildlife habitat, if a land use permit (LUP) or some other land use application involving surface disturbance is denied in order to be consistent with an area's VRM classification. However, it is unlikely that these situations would have any reasonably foreseeable effects on wildlife habitats or populations.

31-366: Please review the Assumptions of Analysis (Wildlife) (DRMP, p. 318). The BLM believes that maintenance or improvement of habitat would occur as a result of PRMP decisions, and that maintenance or improvement of habitat would likely contribute to the maintenance of wildlife populations.

31-367: The BLM believes the knowledgeable and reasonable practices contained in the PRMP (see Riparian Areas, Goal 1, #4-7) would maintain and improve habitat to support viable populations of these bird species.

31-368: The need for residual grass stubble-height requirements for nesting sage grouse or other wildlife species would be identified and assessed during development of site-specific resource activity plans.

31-369: The effects on wildlife of implementing early spring grazing utilization criteria were analyzed in the DRMP on p. 319, #5, Alternative 4; the impacts under Alternative 5 would be the same as stated for Alternative 4.

31-370: Your opinion is noted. Nesting habitat for songbirds is present throughout virtually the entire Challis RA. Key areas for nesting would vary substantially by species and their habitat requirements. Extensive areas that are free of cattle use (*e.g.*, rested pastures, late use pastures, areas closed to grazing) would remain available for songbird nesting.

31-371: The PRMP directs the BLM to manage rangeland sites for late seral or PNC to achieve the vegetation goals stated in Livestock Grazing, Goal 1, unless some other desired plant community would better achieve multiple use and meet the goals of rangeland health (see Livestock Grazing, Goal 1, #10). The BLM disagrees that **only** late seral and PNC communities are "*vital to.....native species*" (see response 31-363(b)).

31-372: Wildlife water developments vary considerably by design and purpose. Many wildlife water developments have been constructed in the western U.S. with the primary purpose of providing water for bighorn sheep, elk and other large ungulates, in addition to game birds. Headboxes and pipelines have also been used to tap into springs and seeps in order to provide water for wildlife in otherwise dry habitats that are a long distance from the spring source. Nongame wildlife species benefit substantially from these water sources.

31-373: Range improvements, as defined in the DRMP and PRMP, include fences. The discussion of effects in the DRMP on p. 321, #11 would also apply to #15 and 16, p. 322. Repeating this same discussion in #15 and 16 would be redundant.

31-374: Your opinion is noted. Management decisions related to rights-of-way and water development have been revised in the PRMP (see Floodplain/Wetland Areas, Goal 2, #3 and 4).

31-375: The analysis has been revised (see PRMP/FEIS, Chapter 4 - Wildlife Habitat, #32). The statement "Loss of shrubs or forbs would reduce the abundance of some wildlife species in the area of treatment or displace wildlife into adjacent habitats ..." would apply to species such as sage thrashers. In addition, see response 31-52.

31-376: Your opinion is noted.

31-377: Your preference is noted. See response 14-4.

31-378: Your preference is noted. The PRMP would provide for limitations on human activities and use within key bighorn sheep habitat areas (*e.g.*, see Wildlife Habitat, Goal 1, #6 and Goal 2, #8; and ACECs - Cronk's Canyon ACEC, #2 and Birch Creek ACEC, #2).

31-379: Please see response 31-368.

31-380: The PRMP only makes these lands *available* for potential disposal through exchange; any future exchange proposal would require a site-specific analysis which would "fully address all impacts," as you request.

31-381: (a) Your preference for the Alternative 4 DLE management decision is noted. However, the BLM has determined that the Alternative 4 decision was not in conformance with existing law. The PRMP proposes to process DLE applications in conformance with existing law, with the limitation that lands proposed for DLE must fall within Adjustment Areas (see Land Tenure and Access, Goal 2, #4).

(b) Your preference is noted.

(c) Your preference is noted.

31-382: The BLM is not sure what closures you support, since your comment did not specify the alternative you support. Please note that OHV management has been revised in the PRMP (see Off-highway Vehicle Use, Goal 1).

31-383: Your preference is noted.

31-384: The BLM agrees with your statement. If logging were authorized in the Jerry Peak area above Herd Lake, the effects of logging on elk and other big game would be magnified by the patchiness of the forested areas, at least on a short-term basis.

31-385: The Biological Assessment of the Draft RMP - Alternative 2 is available for review by the public at the Salmon Field Office. There is no regulatory requirement to print the BA as part of the RMP/EIS.

31-386: (a) The term "design specifications" was used as a reference to management direction outlined in the following DRMP decisions affecting special status species: Special Status Species Management, Goal 2, #2; Attachment 5: Standard Operating Procedures, General, #3; and Management Concern: Wildlife Habitat Management, Goal 2, #13. These decisions would require that projects and other land use proposals be designed to reduce or eliminate adverse effects on special status species and certain other wildlife species. Because a wide range of possible land use activities might be proposed during the life of the RMP, the PRMP does not identify site-specific design requirements, mitigation measures or inventories for special status species.

(b) The analysis under Alternative 5: "adverse effects would be fully mitigated" relates to the management direction stated in the DRMP, Management Concern: Special Status Species Management, Goal 2, #2; Alternative 5. No specific decisions identified as mitigation measures are proposed in the DRMP or PRMP. Instead, necessary mitigation measures are incorporated into RMP management decisions (*e.g.*, see PRMP, Attachment 5: "General" SOP #3-5).

31-387: The BLM believes the analysis of logging impacts on wildlife is adequate. Blue grouse, northern goshawks, flammulated owls, bats, and pygmy nuthatches are not specifically named in the analysis, but are included in the terms "*wildlife*" and "*species*" where these terms are used in the analysis.

31-388: The BLM believes the analysis of cumulative impacts is adequate.

31-389: Please see responses 32-10 and 32-17.

31-390: The BLM disagrees. The PRMP incorporates many management decisions that would directly or indirectly contribute to the maintenance and improvement of habitat for nongame wildlife, and the achievement of Wildlife Habitat, Goal 2 (*e.g.*, see PRMP: Livestock Grazing, Goal 1, #1 and 7-10; and Wildlife Habitat, Goal 2, #2, 8, and 11, and Goal 3, #3).

31-391: "Key habitats" for wildlife are species-specific and vary substantially. Riparian habitat would be key habitat for riparian-dependent nongame birds. Sagebrush habitats would be key habitats for sagebrush lizards and other species dependent on sagebrush. Winter ranges and birthing areas are key habitats for big game animals. Key habitats cannot be specifically listed in the PRMP for every species because the list would be extensive, as would any presentation of data or known information about key habitats. Inventories of key wildlife habitats are limited in the Challis RA; for many species, information about key habitats is available only in the scientific literature. The PRMP presents key habitats for big game animals and sage grouse on Maps 3, 17, 21, 32, and 36.

31-392: Please see response 31-363(b).

31-393: (a) The BLM's Fish and Wildlife 2000 Plan has been partially implemented. Accomplishments include acquisition and management of wetland habitats in Chilly Slough, coordinated efforts to improve riparian and aquatic habitats on important fisheries streams on many grazing allotments in the Challis RA, and completion of certain wildlife inventories and surveys.

(b) Regarding wildlife water - please see responses 31-126, 31-351, and 31-372. The figure of 90,000 acres is BLM's estimate of habitat acres that could be improved to benefit big game and upland game animals in the Challis RA by developing new wildlife water sources, modifying livestock fences, and using prescribed fire or other types of vegetation treatments (see PRMP, Wildlife Habitat, Goal 2, #9(a)). The BLM disagrees that no water should be provided for livestock when wildlife water is developed. For example, the IDFG and BLM have cooperatively developed and funded a number of wildlife projects (water developments) in the Challis RA. These projects involved fencing of springs to protect the riparian habitat and the water source for wildlife. In these situations, livestock water is piped off-site to a trough for livestock.

(c) The 10 year time-frame was established as a goal for completion of wildlife inventories on all commercial timber stands in the RA. Commercial timber stands would be inventoried for wildlife conflicts at the time a timber sale is proposed, if inventories have not been previously completed.

31-394: The PRMP outlines biodiversity management decisions under Biological Diversity, Goal 1. Currently, no available data or other information indicate that fragmentation of terrestrial wildlife habitat is a serious concern in the Challis RA. Some terrestrial habitats (*e.g.*, forested areas) are "naturally" fragmented because of their patchy distribution on the landscape. If fragmented habitats exist in the RA, they would be identified when a formal biodiversity assessment is completed, as directed in the PRMP under Biological Diversity, Goal 1, #3. Actions could then be developed and implemented to address these fragmented habitats.

31-395: BLM policy requires that a river suitability study be completed as part of the land use planning process, which means that rivers identified as eligible do not remain eligible indefinitely. Once the suitability study is completed, eligible rivers that are found unsuitable are released from wild and scenic river consideration and any special management that might have been associated with eligible rivers.

31-396: The PRMP does identify land acquisition as a priority. Land Tenure and Access, Goal 1 presents the goal as follows: "Seek to acquire additional lands having high public values..." Several decisions under Goal 1 describe specific priorities for acquisition; see, for example, Goal 1, #2, 3, 7, 13, and 14. Decisions under Goal 5 describe the BLM's priorities for increasing public access.

31-397: The BLM disagrees that the DRMP does not present a balanced discussion of impacts from land tenure actions. In virtually every case where some adverse impacts of disposals are described, the off-setting beneficial impacts of lands actions are also identified. For example, see the description of environmental consequences of Alternative 2 on p. 196a, #25 (Biological Diversity) and p. 261, #15 (Recreation). In addition, the discussion of land tenure impacts on fisheries is entirely positive (see p. 220, #25-26). In only a few impact discussions were the positive impacts of land tenure actions omitted (see Cultural Resources, p. 200a, #8, 9; Livestock Grazing, p. 239, #23). Until site-specific proposals for land acquisitions and land exchanges are identified, impacts would be difficult or impossible to adequately assess. Therefore, the positive effects of land acquisitions and land exchanges on cultural resources and livestock grazing are unknown.

31-398: The PRMP does not limit Chilly Slough land exchanges to only those areas identified in Land Tenure, Goal 1, #6. Any lands located within the Adjustment Area boundaries on Map A could potentially be exchanged for private land in Chilly Slough. However, the lands identified in #6 would only be available for disposal in exchange for lands in Chilly Slough.

31-399: This decision is in response to a request by the State of Idaho during the public scoping phase of RMP development.

31-400: Your preference is noted. The Federal Land Policy and Management Act (FLPMA) requires BLM land use plans to identify potential disposal parcels that meet FLPMA criteria for sale. Public lands which are listed in the PRMP on Attachment 17 would be *available* for potential disposal through sale, because they meet certain FLPMA criteria; however, other authorities for disposal could be implemented, including the option of exchange for other lands.

31-401: Your preference is noted. As stated in response 31-400 above, all sale tracts identified in the PRMP would also be available for disposal by exchange or other disposal methods. All areas available for disposal cannot be "lumped together" under one category, because disposal criteria for a sale differ from criteria for a DLE, which differ from criteria for an R&PP patent, etc.

31-402: As noted in Land Tenure and Access, Goal 4, #1, only long term trespass situations may be resolved through sale, exchange, or lease. New trespass cases would be terminated and rehabilitated.

31-403: The use of covenant language in patents for lands containing riparian areas, floodplains, and wetlands transferred out of public ownership would be for the purpose of protecting important resource values from degradation. It is the policy of the BLM to retain these lands in Federal ownership if their disposal would violate the intent of Executive Orders 11988 (Floodplain Management) or 11990 (Protection of Wetlands). The PRMP also provides for "no net loss" of important resource values (see Land Tenure and Access, Goal 1, #3). Should the lands meet FLPMA criteria for disposal and be transferred out of Federal ownership, then the patents would include restrictive language to protect the areas. The patent would specifically describe the land and the restrictions set forth for the land, whether it be no subdivision or other types of protection measures. The BLM would make every reasonable effort to ensure compliance with the covenants.

31-404: Your opinions are noted.

31-405: Thank you for pointing out the error. The citation for the Code of Federal Regulations should read "43 CFR 2130." This regulation is titled 2130 - Acquisition of Lands or Interests in Lands by Purchase or Condemnation. This citation has been corrected in the PRMP.

31-406: Mitigation measures are not displayed separately in a Resource Management Plan (RMP), but rather incorporated as decisions within the Plan itself. When the Record of Decision is signed it will specify which individual decisions are included.

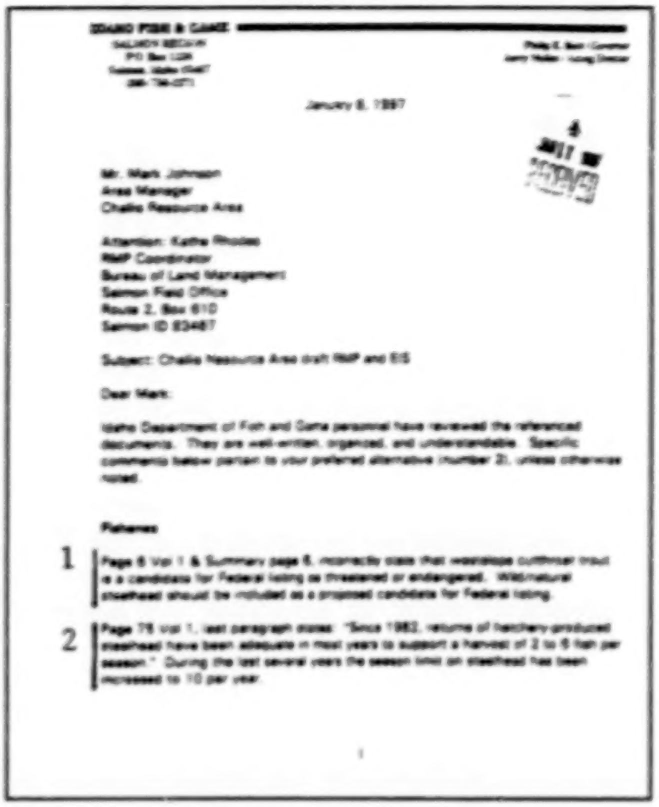
31-407: The BLM shares your desire to have as much information as possible displayed on maps. Changes have been made to maps in the PRMP to improve their usefulness. The BLM has presented only those maps that were deemed necessary for an adequate understanding of the management decisions proposed in the PRMP.

31-408: Where specific sites of proposed actions are *known*, the BLM has included the locations in the PRMP (*e.g.*, ACEC boundaries, Wild & Scenic River corridors, Special Recreation Management Areas, full fire suppression areas, lands available for sale or exchange, areas closed or limited to OHV use, areas closed to livestock grazing). The PRMP also analyzes the impacts of these actions. However, the sites of many actions would only be identified in the future as projects are proposed by outside proponents (*e.g.*, rights-of-way) or project proposals are developed during project or activity planning (*e.g.*, vegetation treatment projects, noxious weed treatment sites, riparian study sites). The site-specific impacts of these types of future proposals would be analyzed during activity or project planning.

31-409: The entire Resource Area would be affected by the PRMP, because PRMP decisions address all aspects of management of public lands within the Challis Resource Area. The summary of environmental consequences (see Chapter 2) indicates a net improvement in resource conditions would occur in the Resource Area as a result of PRMP management.

31-410: Your opinion is noted.

Letter No. 32



IDAHO FISH & GAME

January 8, 1997

Mr. Mark Johnson
Area Manager
Challis Resource Area

Attention: Kathe Rhodes
RMP Coordinator
Bureau of Land Management
Salmon Field Office
Route 2, Box 610
Salmon ID 83467

Subject: Challis Resource Area draft RMP and EIS

Dear Mark:

Idaho Department of Fish and Game personnel have reviewed the referenced documents. They are well-written, organized, and understandable. Specific comments below pertain to your preferred alternative (number 2), unless otherwise noted.

Fisheries

1 Page 6 Vol 1 & Summary page 6, incorrectly state that westslope cutthroat trout is a candidate for Federal listing as threatened or endangered. Wild/natural steelhead should be included as a proposed candidate for Federal listing.

2 Page 75 Vol 1, last paragraph states: "Since 1982, returns of hatchery-produced steelhead have been adequate in most years to support a harvest of 2 to 6 fish per season." During the last several years the season limit on steelhead has been increased to 10 per year.

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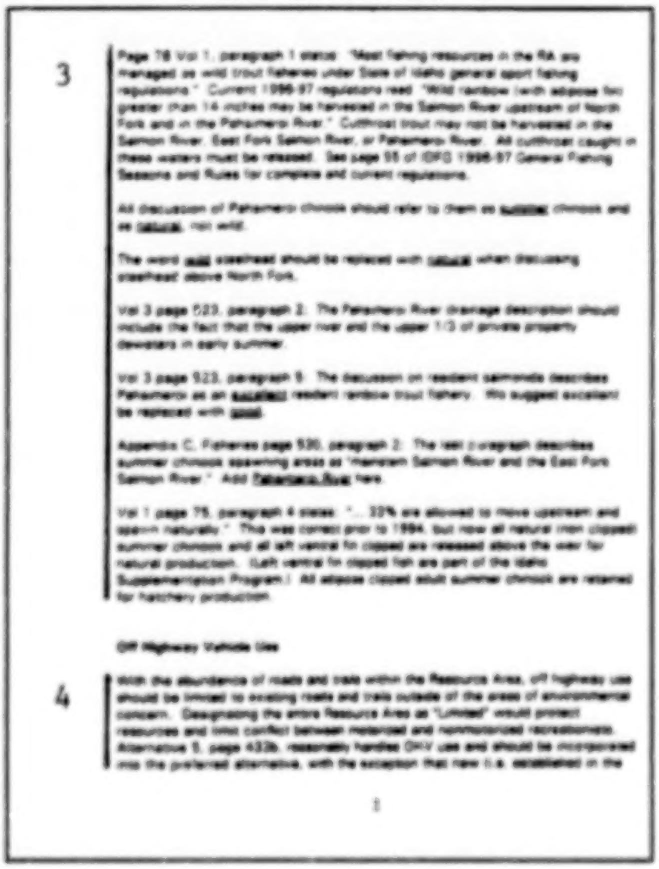
Letter No. 32 *continued*



3 Page 78 Vol 1, paragraph 1 states: "Most fishing resources in the RA are managed as wild trout fisheries under State of Idaho general sport fishing regulations." Current 1996-97 regulations read: "Wild rainbow (with adipose fin) greater than 14 inches may be harvested in the Salmon River upstream of North Fork and in the Pahsimeroi River." Cutthroat trout may not be harvested in the Salmon River, East Fork Salmon River, or Pahsimeroi River. All cutthroat caught in these waters must be released. See page 55 of IDFG 1996-97 General Fishing Seasons and Rules for complete and current regulations.

All discussion of Pahsimeroi chinook should refer to them as summer chinook and as natural, not wild.

The word wild steelhead should be replaced with natural when discussing steelhead above North Fork.

Vol 3 page 523, paragraph 2. The Pahsimeroi River drainage description should include the fact that the upper river and the upper 1/3 of private property dewaters in early summer.

Vol 3 page 523, paragraph 5. The discussion on resident salmonids describes Pahsimeroi as an excellent resident rainbow trout fishery. We suggest excellent be replaced with good.

Appendix C, Fisheries page 530, paragraph 2. The last paragraph describes summer chinook spawning areas as "mainstem Salmon River and the East Fork Salmon River." Add Pahsimeroi River here.

Vol 1 page 75, paragraph 4 states: "... 33% are allowed to move upstream and spawn naturally." This was correct prior to 1994, but now all natural (non clipped) summer chinook and all left ventral fin clipped are released above the weir for natural production. (Left ventral fin clipped fish are part of the Idaho Supplementation Program.) All adipose clipped adult summer chinook are retained for hatchery production.

Off Highway Vehicle Use

4 With the abundance of roads and trails within the Resource Area, off highway use should be limited to existing roads and trails outside of the areas of environmental concern. Designating the entire Resource Area as "Limited" would protect resources and limit conflict between motorized and nonmotorized recreationists. Alternative 5, page 432b, reasonably handles OHV use and should be incorporated into the preferred alternative, with the exception that new (i.e. established in the

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BLM Response to Letter No. 32

32-1: Thank you for providing updated information. As of the date the Draft RMP/EIS was sent to the printer (April 1996), the westslope cutthroat trout was a category 2 candidate species and wild/natural steelhead rainbow trout were not yet proposed for Federal listing as threatened. The Proposed RMP/Final EIS has been revised to reflect all changes in special status species listings which have occurred from May 1996 to the date of printing of the PRMP/FEIS.

32-2: The PRMP/FEIS has been corrected in response to your comment.

32-3: The PRMP has been revised to incorporate your suggested changes.

32-4: Your preference for Alternative 5 is noted. The majority of your suggestions for OHV management have been incorporated into the Proposed RMP. Except for some areas with additional restrictions or closures, OHV use on the entire Resource Area would be limited to existing roads, vehicle ways, and trails yearlong (see PRMP, OHV Use). However, some aspects of Alternative 5 OHV management were not included in the PRMP because the BLM determined the restrictions or closures were not necessary to protect resource values. Please also see response 32-18.

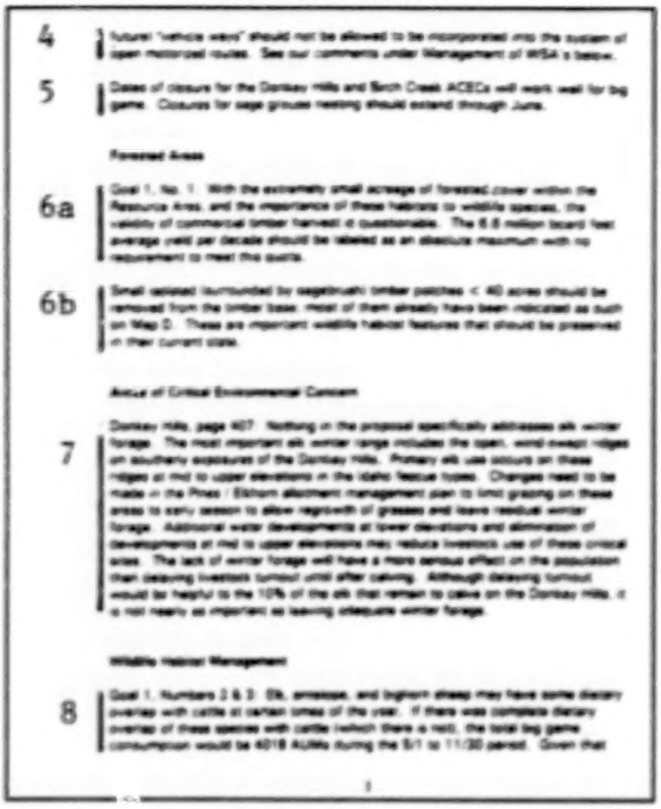
32-5: Your comments are noted. The PRMP (Wildlife Habitat, Goal 2, #8) has been revised to provide for restrictions on permitted activities in sage grouse nesting areas from 4/15-6/30. Casual or incidental OHV use would not be addressed by this decision. However, the PRMP limits motorized vehicle use to existing roads, vehicle ways, and trails yearlong (see response 32-4 above), which should provide adequate protection for nesting sage grouse.

32-6: (a) Your opinion on the validity of commercial timber harvest is noted. Please see response 31-27. The PRMP specifically states that timber harvest per decade would not exceed the sustained yield average of 6.6 million board feet per decade (see Forested Areas, Goal 1, #1). Actual cut would be based on the availability and demand for timber. There is no requirement in the PRMP to meet the 6.6 million board foot figure.

(b) The PRMP would remove 41 isolated timber stands from the commercial timber base (see Forest Resources, Goal 1, #22); most timber stands less than 40 acres in size would be removed from the commercial timber base under this decision.

32-7: Your comments regarding the Donkey Hills ACEC are noted. BLM agrees that forage (including browse) on southerly aspects and windswept ridges is a critical

Letter No. 32 *continued*



4 future "vehicle ways" should not be allowed to be incorporated into the system of open motorized routes. See our comments under Management of WSA's below.

5 Dates of closure for the Donkey Hills and Birch Creek ACECs will work well for big game. Closures for sage grouse nesting should extend through June.

Forested Areas

6a Goal 1, No. 1: With the extremely small acreage of forested cover within the Resource Area, and the importance of these habitats to wildlife species, the validity of commercial timber harvest is questionable. The 6.6 million board feet average yield per decade should be labeled as an absolute maximum with no requirement to meet the quota.

6b Small isolated (surrounded by sagebrush) timber patches < 40 acres should be removed from the timber base; most of them already have been indicated as such on Map D. These are important wildlife habitat features that should be preserved in their current state.

Areas of Critical Environmental Concern

7 Donkey Hills, page 407: Nothing in the proposal specifically addresses elk winter forage. The most important elk winter range includes the open, wind-swept ridges on southerly exposures of the Donkey Hills. Primary elk use occurs on these ridges at mid to upper elevations in the Idaho fescue types. Changes need to be made in the Pines / Elkhorn allotment management plan to limit grazing on these areas to early season to allow regrowth of grasses and leave residual winter forage. Additional water developments at lower elevations and elimination of developments at mid to upper elevations may reduce livestock use of these critical areas. The lack of winter forage will have a more serious effect on the population than delaying livestock turnout until after calving. Although delaying turnout would be helpful to the 10% of the elk that remain to calve on the Donkey Hills, it is not nearly as important as leaving adequate winter forage.

Wildlife Habitat Management

8 Goal 1, Numbers 2 & 3: Elk, antelope, and bighorn sheep may have some dietary overlap with cattle at certain times of the year. If there was complete dietary overlap of these species with cattle (which there is not), the total big game consumption would be 4018 AUMs during the 5/1 to 11/30 period. Given that

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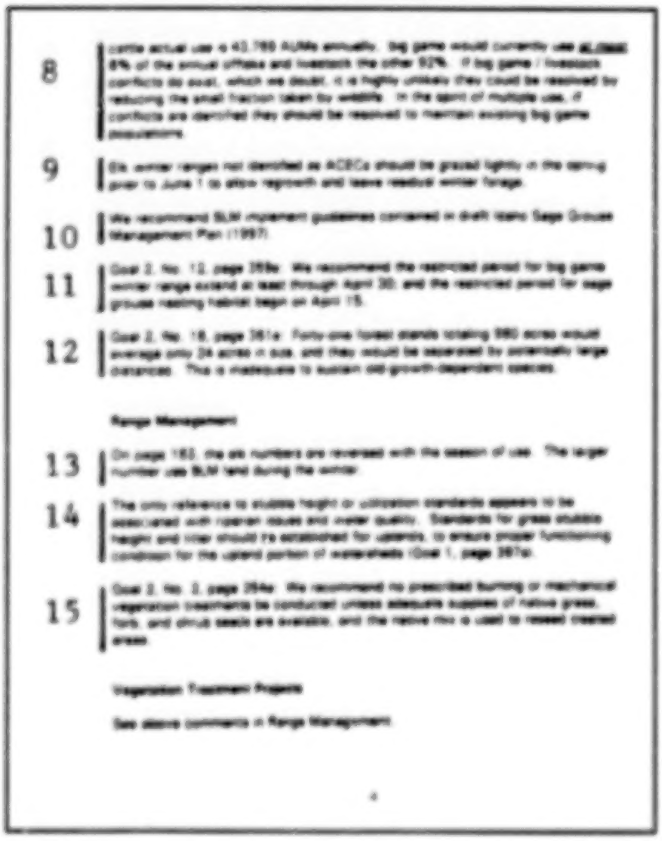
Letter No. 32 *continued*



8 cattle actual use is 43,790 AUMs annually, big game would currently use at most 8% of the annual offtake and livestock the other 92%. If big game / livestock conflicts do exist, which we doubt, it is highly unlikely they could be resolved by reducing the small fraction taken by wildlife. In the spirit of multiple use, if conflicts are identified they should be resolved to maintain existing big game populations.

9 Elk winter ranges not identified as ACECs should be grazed lightly in the spring prior to June 1 to allow regrowth and leave residual winter forage.

10 We recommend BLM implement guidelines contained in draft Idaho Sage Grouse Management Plan (1997).

11 Goal 2, No. 12, page 358a: We recommend the restricted period for big game winter range extend at least through April 30, and the restricted period for sage grouse nesting habitat begin on April 15.

12 Goal 2, No. 18, page 361a: Forty-one forest stands totaling 980 acres would average only 24 acres in size, and they would be separated by potentially large distances. This is inadequate to sustain old-growth-dependent species.

Range Management

13 On page 153, the elk numbers are reversed with the season of use. The larger number use BLM land during the winter.

14 The only reference to stubble height or utilization standards appears to be associated with riparian issues and water quality. Standards for grass stubble height and litter should be established for uplands, to ensure proper functioning condition for the upland portion of watersheds (Goal 1, page 397a).

15 Goal 2, No. 2, page 354a: We recommend no prescribed burning or mechanical vegetation treatments be conducted unless adequate supplies of native grass, forb, and shrub seeds are available, and the native mix is used to reseed treated areas.

Vegetation Treatment Projects

See above comments in Range Management.

4

BLM Response to Letter No. 32 *continued*

habitat component on the Donkey Hills elk winter range. The PRMP includes management to ensure that elk habitat values in this area are maintained (see Wildlife Habitat, Goal 2, #6 and ACECs, Donkey Hills ACEC, #1-12). Revision of the Pines/Elkhorn Allotment Management Plan or development of a new resource activity plan (see PRMP: Livestock Grazing, Goal 1, #4; and ACECs, Goal 1, "Management Common to All ACECs," #4) would be the BLM's preferred approach to address forage use, water developments and livestock grazing.

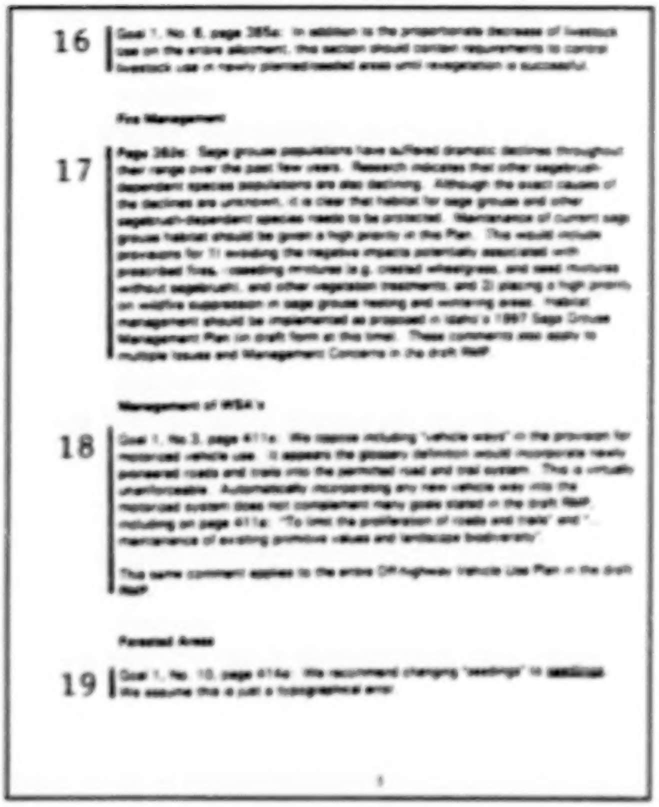
32-8: Your preference for Wildlife Habitat Management, Goal 1, #3, Alternative 4 (DRMP, p. 357b) is noted. Your comments about dietary overlap between big game and livestock are also noted. BLM would prefer to address any perceived conflicts between livestock and big game on a case-by-case basis (see PRMP, Wildlife Habitat, Goal 1, #3). The BLM expects that these conflict resolutions would involve the IDFG, BLM, and interested publics in the collection and analysis of monitoring data and a thorough review of related scientific studies that would provide a better understanding of the issue by all involved parties.

32-9: Your comments on light spring livestock use on elk winter ranges are noted. The BLM believes that implementation of utilization criteria on key upland sites, as provided for by the PRMP (see Livestock Grazing, Goal 1, #7) would ensure that sufficient winter forage would remain available for elk. Utilization criteria would generally result in a mosaic of areas with light livestock use, areas of moderate livestock use, and areas that receive little or no livestock use (such as windswept ridgetops and steeper slopes).

32-10: The IDFG Draft Sage Grouse Management Plan (1997) contains land management guidelines that focus on management of sagebrush-grassland and other habitat types to maintain and improve these areas for sage grouse. The PRMP incorporates a number of management decisions that meet the general intent of the many guidelines proposed in the Draft Sage Grouse Management Plan: Livestock Grazing, Goal 1, #1, 4, 7 and 8; Wildlife Habitat, Goal 2, #8; Floodplain/Wetland Areas, Goal 2, #2; Riparian Areas, Goal 1, #1-7; and *Attachment 8: Design Specifications*, Rangeland Improvement, #2, 4, 7, and 8.

32-11: The PRMP has been revised to incorporate your suggested changes (see Wildlife Habitat, Goal 2, #8). The wording of the decision has also been changed to provide for permitted activities within the restricted period, if it is determined on a case-by-case basis, through consultation with IDFG, that the restriction can be lifted for a permitted activity.

Letter No. 32 *continued*



16 Goal 1, No. 8, page 365a: In addition to the proportionate decrease of livestock use on the entire allotment, this section should contain requirements to control livestock use in newly planted/seeded areas until revegetation is successful.

Fire Management

17 Page 362a: Sage grouse populations have suffered dramatic declines throughout their range over the past few years. Research indicates that other sagebrush-dependent species populations are also declining. Although the exact causes of the declines are unknown, it is clear that habitat for sage grouse and other sagebrush-dependent species needs to be protected. Maintenance of current sage grouse habitat should be given a high priority in the Plan. This would include provisions for 1) avoiding the negative impacts potentially associated with prescribed fires, reseeding mixtures (e.g. crested wheatgrass, and seed mixtures without sagebrush), and other vegetation treatments, and 2) placing a high priority on wildfire suppression in sage grouse nesting and wintering areas. Habitat management should be implemented as proposed in Idaho's 1997 Sage Grouse Management Plan (in draft form at this time). These comments also apply to multiple issues and Management Concerns in the draft RMP.

Management of WSA's

18 Goal 1, No 3, page 411a: We oppose including "vehicle ways" in the provision for motorized vehicle use. It appears the glossary definition would incorporate newly pioneered roads and trails into the permitted road and trail system. This is virtually unenforceable. Automatically incorporating any new vehicle way into the motorized system does not complement many goals stated in the draft RMP, including on page 411a: "To limit the proliferation of roads and trails" and "...maintenance of existing primitive values and landscape biodiversity".

This same comment applies to the entire Off-highway Vehicle Use Plan in the draft RMP.

Forested Areas

19 Goal 1, No. 10, page 414a: We recommend changing "seedlings" to [illegible]. We assume this is just a typographical error.

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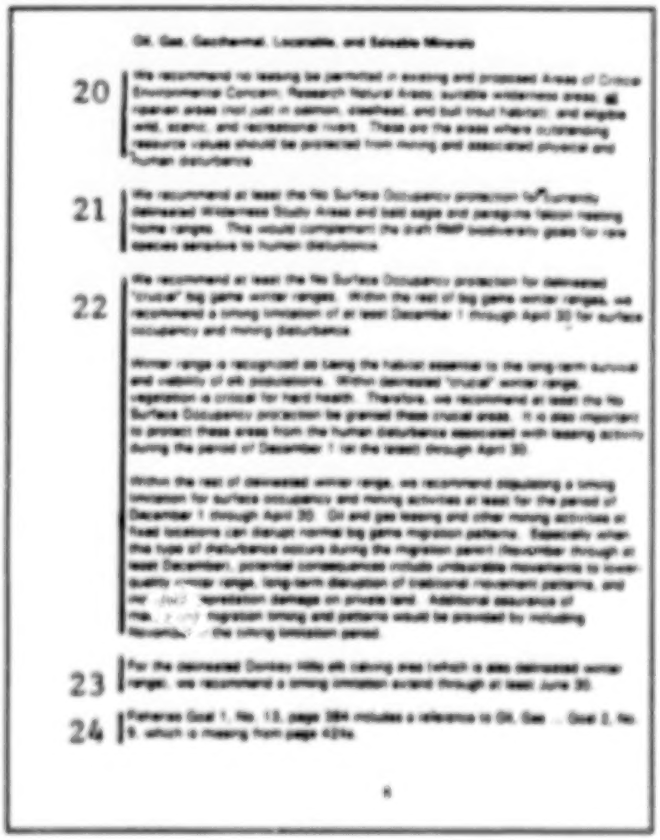
Letter No. 32 *continued*



Oil, Gas, Geothermal, Locatable, and Saleable Minerals

20 We recommend no leasing be permitted in existing and proposed Areas of Critical Environmental Concern, Research Natural Areas, suitable wilderness areas, all riparian areas (not just in salmon, steelhead, and bull trout habitat), and eligible wild, scenic, and recreational rivers. These are the areas where outstanding resource values should be protected from mining and associated physical and human disturbance.

21 We recommend at least the No Surface Occupancy protection for currently delineated Wilderness Study Areas and bald eagle and peregrine falcon nesting home ranges. This would complement the draft RMP biodiversity goals for rare species sensitive to human disturbance.

22 We recommend at least the No Surface Occupancy protection for delineated "crucial" big game winter ranges. Within the rest of big game winter ranges, we recommend a timing limitation of at least December 1 through April 30 for surface occupancy and mining disturbance.

Winter range is recognized as being the habitat essential to the long-term survival and viability of elk populations. Within delineated "crucial" winter range, vegetation is critical for herd health. Therefore, we recommend at least the No Surface Occupancy protection be granted these crucial areas. It is also important to protect these areas from the human disturbance associated with leasing activity during the period of December 1 (at the least) through April 30.

Within the rest of delineated winter range, we recommend stipulating a timing limitation for surface occupancy and mining activities at least for the period of December 1 through April 30. Oil and gas leasing and other mining activities at fixed locations can disrupt normal big game migration patterns. Especially when this type of disturbance occurs during the migration period (November through at least December), potential consequences include unfavorable movements to lower-quality winter range, long-term disruption of traditional movement patterns, and [illegible] depredation damage on private land. Additional assurance of [illegible] migration timing and patterns would be provided by including November in the timing limitation period.

23 For the delineated Donkey Hills elk calving area (which is also delineated winter range), we recommend a timing limitation extend through at least June 30.

24 Fisheries Goal 1, No. 13, page 384 includes a reference to Oil, Gas ... Goal 2, No. 9, which is missing from page 424a.

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BLM Response to Letter No. 32 *continued*

32-12: Your comments are noted. The intent of this decision was to maintain these isolated stands of timber cover for wildlife species that make heavy use of transition zones between sagebrush-grassland and forested area habitats. However, most of these stands do meet the definition of old-growth forest, based on the stand structure and other vegetation characteristics.

32-13: Thank you for bringing this error to our attention. The PRMP/FEIS has been corrected.

32-14: The PRMP establishes utilization criteria for key forage species on upland sites (Livestock Grazing, Goal 1, #7). These utilization criteria are expected to provide for a residual stubble height that would maintain upland sites in a properly functioning condition. In addition, the PRMP proposes decisions to manage rangeland vegetation to achieve a late seral stage or potential natural community (Livestock Grazing, Goal 1, #10; and Wildlife Habitat, Goal 2, #7) and to manage watersheds to maintain minimum amounts of vegetative cover (Upland Watershed, Goal 1, #3). The BLM believes that these decisions would help to ensure that litter and residual herbaceous cover are maintained on upland sites.

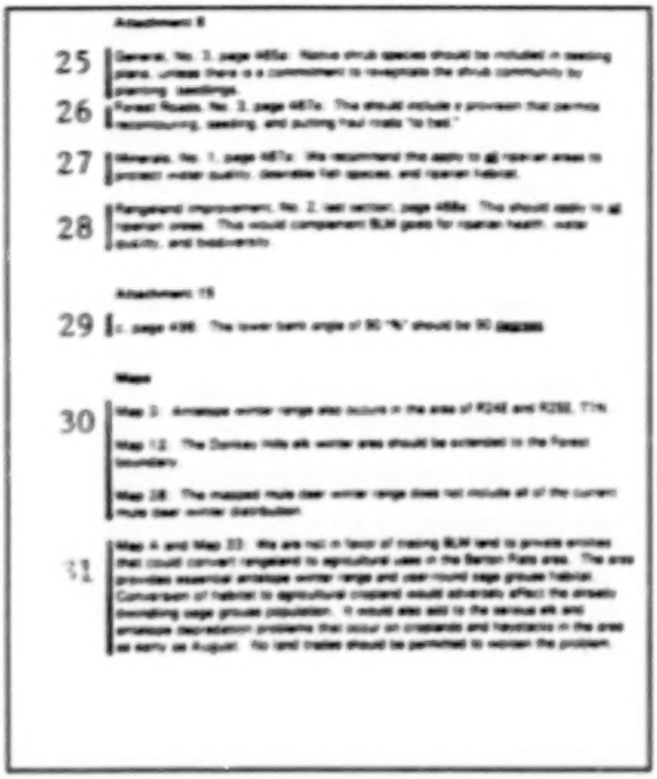
32-15: Your recommendations are noted. The BLM believes the scoping process for vegetation treatment projects, as provided for by the PRMP (Rangeland Vegetation Treatment Projects, Goal 1, #2 and 3) would help to ensure that native species are emphasized. The PRMP has been revised to clarify that non-native species would be included in the seed mix only when resource conditions or project objectives warrant their use (see Attachment 8: Design Specifications, General, #2, 3, 4, and 5).

32-16: The Draft RMP contained management to control livestock use in newly seeded areas (see p. 365a, Goal 1, #5, Alternative 2). This management is carried forward to the PRMP.

32-17: The BLM recognizes that maintenance of current sage grouse habitat should be a priority. Please see response 32-10 above. The PRMP would require the full suppression of any wildfires on sage grouse nesting and wintering areas where a fire suppression activity plan has not yet been prepared (Fire Management, Goal 1, #2) Site specific wildfire suppression activity plans would consider the need for full suppression of wildfires in sage grouse habitats, since the IDFG would be consulted for input and comment, during the development of fire suppression activity plans.

32-18: The PRMP defines "existing roads, vehicle ways, and trails" in order to address your concern and clarify this issue (see PRMP, Glossary).

Letter No. 32 *continued*



Attachment 8

25 General, No. 3, page 485a: Native shrub species should be included in seeding plans, unless there is a commitment to revegetate the shrub community by planting seedlings.

26 Forest Roads, No. 3, page 487a: This should include a provision that permits recontouring, seeding, and putting haul roads "to bed."

27 Minerals, No. 1, page 487a: We recommend this apply to all riparian areas to protect water quality, desirable fish species, and riparian habitat.

28 Rangeland improvement, No. 2, last section, page 488a: This should apply to all riparian areas. This would complement BLM goals for riparian health, water quality, and biodiversity.

Attachment 15

29 c. page 498: The lower bank angle of 80 "%" should be 80 degrees.

Maps

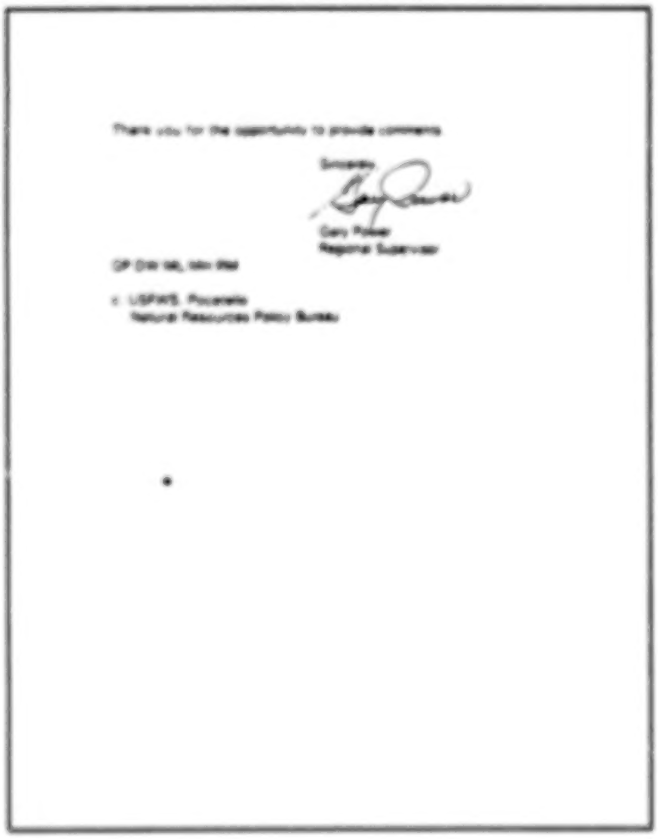
30 Map 3: Antelope winter range also occurs in the area of R24E and R25E, [illegible].

Map 12: The Donkey Hills elk winter area should be extended to the Forest boundary.

Map 28: The mapped mule deer winter range does not include all of the current mule deer winter distribution.

31 Map 4 and Map 33: We are not in favor of trading BLM land to private entities that could convert rangeland to agricultural uses in the Barton Flats area. The area provides essential antelope winter range and year-round sage grouse habitat. Conversion of habitat to agricultural cropland would adversely affect the already dwindling sage grouse population. It would also add to the serious elk and antelope depredation problems that occur on croplands and haystacks in the area as early as August. No land trades should be permitted to worsen the problem.

Letter No. 32 *continued*



Thank you for the opportunity to provide comments.

Sincerely,

Gary Power
Regional Supervisor

[illegible]

c: USFWS, Pocatello
Natural Resources Policy Bureau

BLM Response to Letter No. 32 *continued*

32-19: Thank you for bringing this error to our attention. The PRMP/FEIS has been corrected.

32-20: Your recommendations are noted. There are no known deposits of non-energy leasable minerals in the Challis RA, and the potential for leasable mineral development is nearly nonexistent in the RA (see DRMP, Chapter 4 - Minerals, #2 and 8, pp. 244-245). Therefore, the BLM does not believe that mandatory NSO stipulations on or closure of all the areas you list would be needed to protect resource values. If energy or non-energy leasing development is proposed on public lands which are open to leasing, an interdisciplinary team would review the proposal and recommend appropriate stipulations for the protection of resource values.

32-21: Your recommendations are noted. Existing WSAs are closed to energy and non-energy leasing and leasable mineral development. PRMP decisions (e.g., Attachment 5: SOPs, "General", #3-5; and Attachment 10: Leasable Minerals Stipulations, Stipulation Number 1) would protect Federally listed species such as the bald eagle and peregrine falcon from adverse effects of leasable minerals activities.

32-22: Your recommendations are noted. Standard stipulations (Attachment 10) may be applied to any mineral lease on big game winter ranges, at the discretion of the BLM authorized officer (Stipulations 1 and 2 specifically address crucial wildlife habitats - also see PRMP, Wildlife Habitat, Goal 1, #9(e)). The PRMP also provides for restrictions on permitted activities from 11/15 to 4/15 on big game winter ranges (see Wildlife Management, Goal 2, #8), which would apply to leasable mineral development and sale of mineral materials. Locatable mineral development activities would be managed under regulations found in 43 CFR 3800.

32-23: Your recommendation for a timing limitation on the Donkey Hills calving area is noted. The PRMP would provide for a limitation on permitted activities on the calving area (see Wildlife Habitat, Goal 2, #8). Other stipulations and limitations (as noted above in response 32-22) may also apply.

32-24: Thank you for bringing this error to our attention. The decision should have referred to "Oil, Gas ... Goal 2, #8." The PRMP/FEIS has been corrected.

32-25: Your opinion is noted. The PRMP revises this design specification to specify that shrubs may be included in the seeding, if appropriate to meet project objectives.

32-26: Although recontouring and putting "to bed" new or existing roads would seem to be an appropriate management practice, the BLM believes that such a

BLM Response to Letter No. 32 *continued*

decision would actually result in greater potential for surface disturbance, sedimentation, and erosion than leaving the existing road bed in place. The potential use of the haul road for future timber harvest or other purposes such as horseback riding, hiking, or cross-country skiing would also be permanently lost. Several PRMP decisions address the issues of road construction, maintenance, closure, and rehabilitation (see Water Quality, Goal 1, #5 and 6; and Attachment 8: Design Specifications, "General", #1 and 2, and "Forest Management - Road Construction and Rehabilitation", #2 and 3).

32-27: The potential for leasable mineral development is extremely low to nonexistent in the RA (see DRMP, p. 244a, #2, Alternative 1; and p. 245a, #8). This low potential for development would also result in a low potential to affect riparian habitats. Standard stipulations for the protection of resource values could be applied to any energy mineral lease at the discretion of the BLM authorized officer.

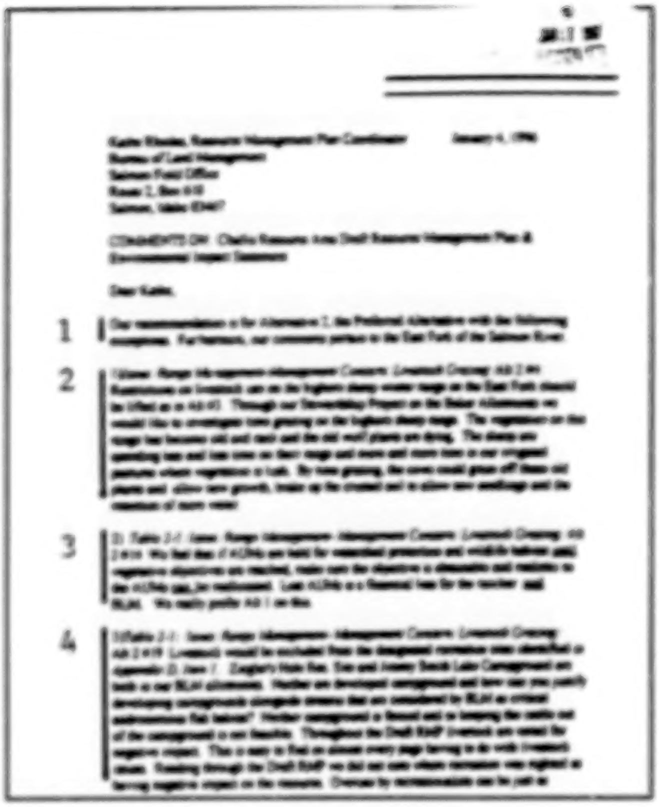
32-28: The wording of the design specification in Attachment 8 has been changed in response to your comment.

32-29: Thank you for bringing this error to our attention. The PRMP has been corrected.

32-30: Changes to the maps have been made in the PRMP.

32-31: Any proposed land exchange within the adjustment area on Barton Flat would only be implemented if agreed upon by the Chilly Slough Working Group. The IDFG is a key partner in the Chilly Slough Working Group and thus could reject any land exchange that might be proposed in the Barton Flat area.

Letter No. 33



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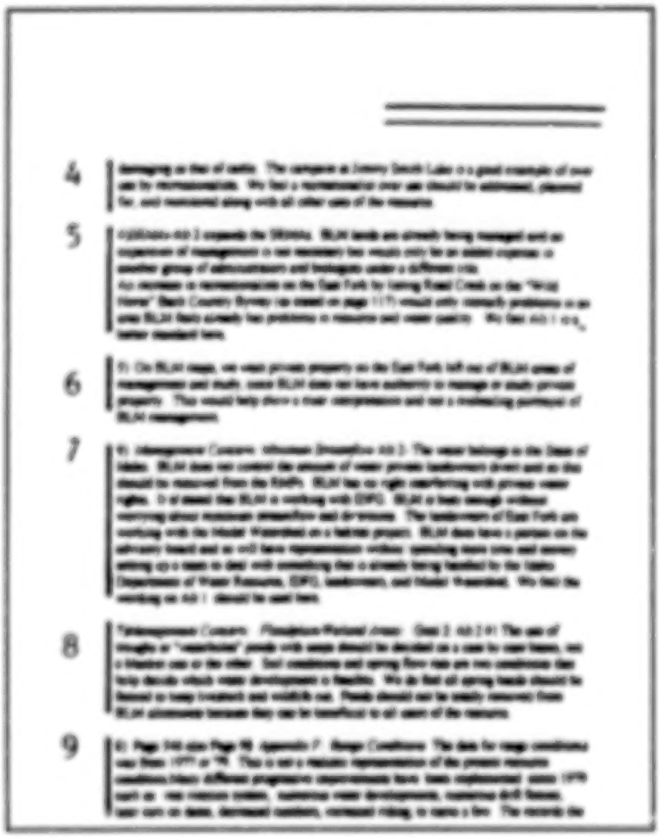


BLM Response to Letter No. 33

33-1: Your preference for Alternative 2, with exceptions, is noted. The BLM's responses to the exceptions you recommend are stated in responses 33-2 through 33-13 below.

33-2: Please see response 25-2.

33-3: Please see response 25-4.

33-4: Please see response 25-5.

33-5: Please see response 25-3.

33-6: Please see response 25-6.

33-7: Your preference for Alternative 1 is noted. Please see response 16-7.

33-8: Your opinions are noted.

33-9: Please see response 25-9.

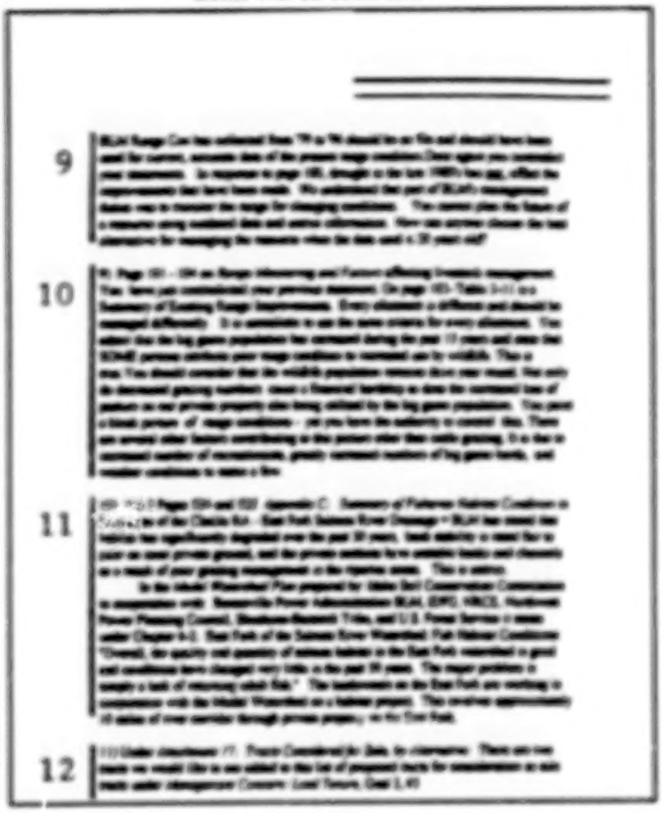
33-10: Please see response 25-10.

33-11: Please see response 25-11.

33-12: Approximately 10 acres in each of the two land areas you requested (T11N, R18E, Section 35, SWNESE and T9N, R18E, Section 5, NWNENW) have been included in the Proposed RMP as adjustment areas for exchange only (see PRMP, Map A: Adjustment/Management Areas). These parcels have not been added to the PRMP for potential sale because they contain important riparian, river frontage, or other resource values which would only be exchanged for lands with equal or greater resource value (see PRMP, Management Concern: Land Tenure, Goal 1, #3). In addition, a portion of the parcel you requested in T9N, R18E, Section 5, NWNENW is located in a Wilderness Study Area and is not available for disposal unless it is released by Congress from wilderness review (see PRMP, WSAs- Management if Released from Wilderness Review, Goal 1, #8).

33-13: Please see response 25-12.

Letter No. 33 *continued*



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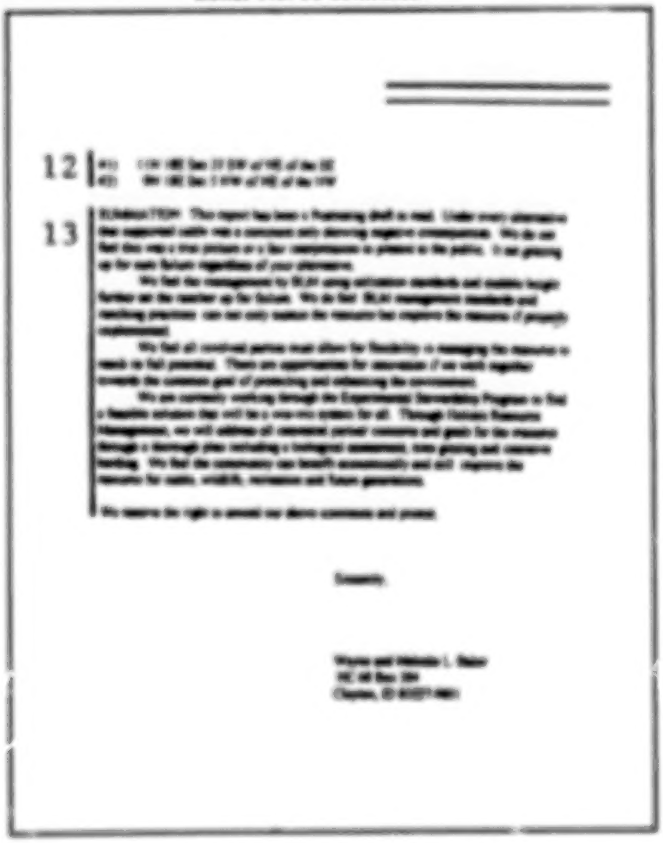
Letter No. 33 *continued*



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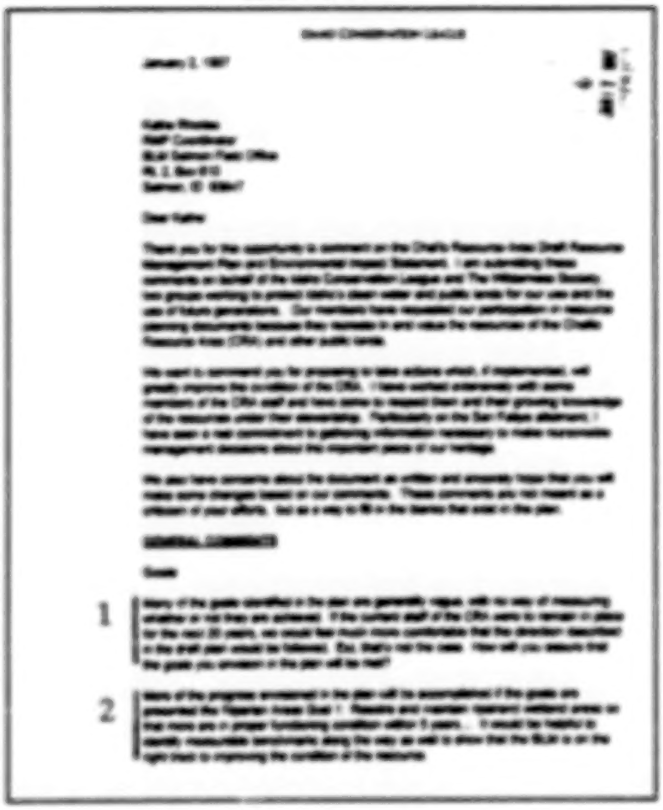
Letter No. 34



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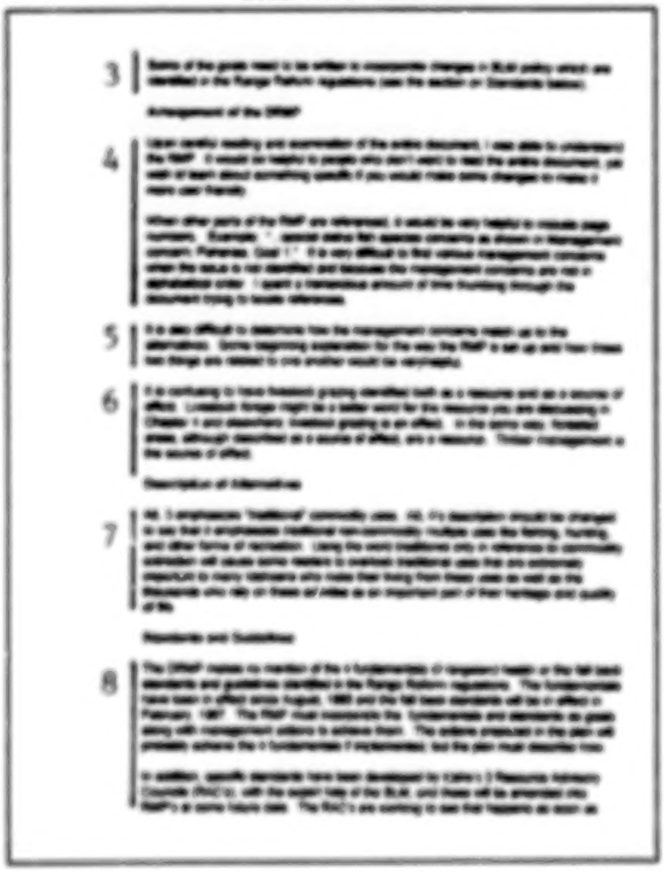


BLM Response to Letter No. 34

34-1: The PRMP describes the resource condition objectives, land use allocations, and specific management actions and direction needed to direct the BLM's management of public lands in the Challis Resource Area during the life of the RMP. Implementing these actions as stated will ensure goals are met.

34-2: As noted in the Glossary (see DRMP, pp. 571 and 575), the BLM recognizes goals and objectives separately. Where appropriate, the BLM has included measurable criteria in the individual decisions in the PRMP.

34-3: Goals, objectives and management decisions of the RMP are compatible with 43 CFR 4180, Fundamentals of Rangeland Health and Standards and Guidelines for Grazing Administration. A new decision in the PRMP (Livestock Grazing, Goal 1, #1) addresses compliance with current standards for rangeland health and guidelines for grazing administration.

34-4: Your suggestion is noted and incorporated into the PRMP.

34-5: The organization of the PRMP/FEIS has been simplified by listing the PRMP decisions in the same (alphabetical) order as the discussion of resources and land uses in the Affected Environment (Chapter 3) and Environmental Consequences (Chapter 4). The Draft RMP and PRMP contain "guides" (a content/organization overview at the beginning of Volume 1; a table of contents for each volume) which are intended to help the reader use and understand the documents.

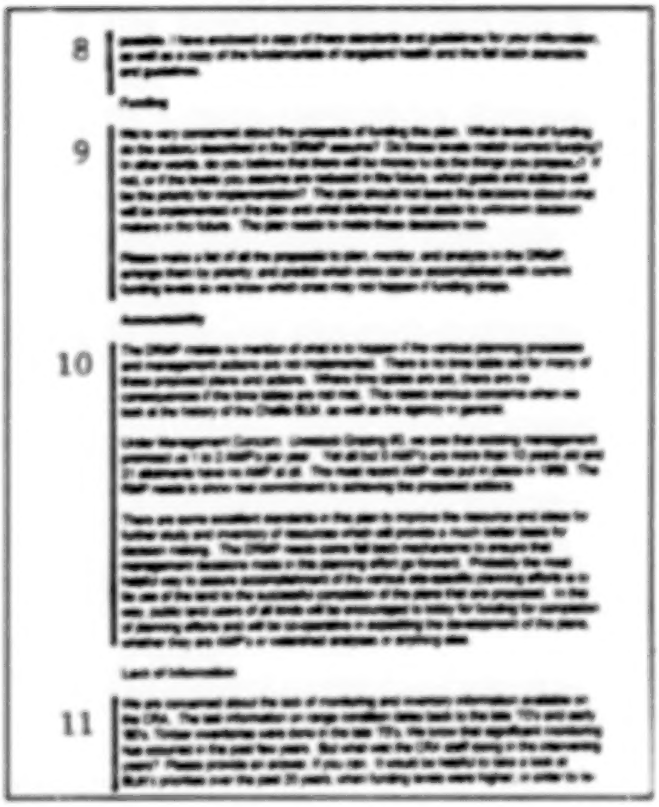
34-6: The "source of effect" is the collection of decisions found under a particular section of the Draft RMP, such as "Management Concern: Livestock Grazing" or "Management Concern: Forested Areas." The PRMP refers to livestock grazing as a land use rather than a resource and eliminates the "source of effect" column heading in the discussion of environmental consequences (Chapter 4).

34-7: Your comments are noted. No changes were made to the PRMP, since these sections were not restated in the PRMP.

34-8: Please see response 34-3. The PRMP contains management actions to achieve rangeland health; for example, see these PRMP sections: Livestock Grazing; Upland Watershed; Rangeland Vegetation Treatment Projects; Noxious Weed Infestations; and Wildlife Habitat.

34-9: The analysis of environmental consequences assumed "Funding and personnel would be sufficient to implement any alternative as described" (DRMP, p. 177). The

Letter No. 34 *continued*



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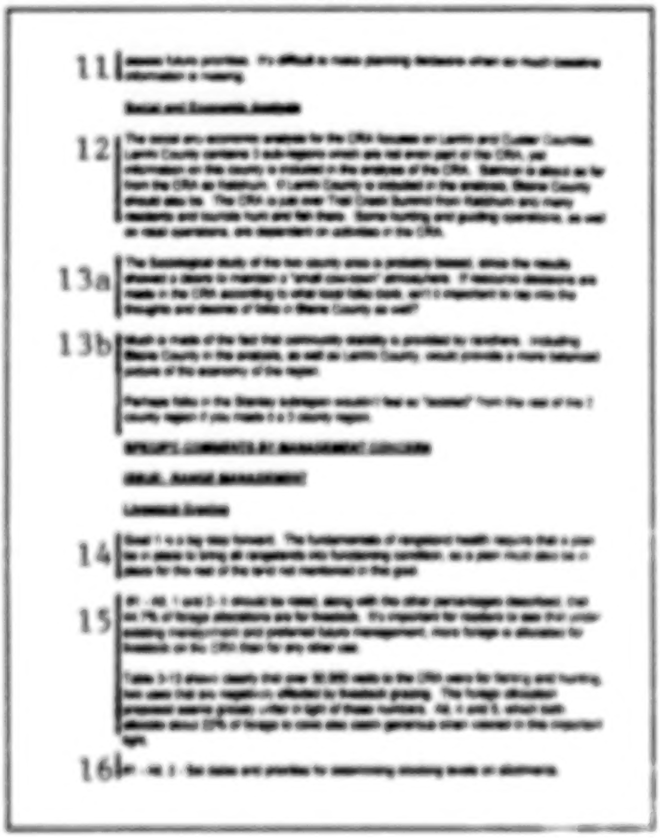
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BLM Response to Letter No. 34 *continued*

schedule for implementing the decisions contained in the RMP is dynamic and would not be appropriate to include in the Proposed RMP/Final EIS. This schedule will be in the Implementation Plan prepared following signature of the Record of Decision for the approved RMP. The Implementation Plan will address at least the first five years following approval of the Plan, and will be modified and adjusted in response to such things as actions completed, effectiveness of actions in achieving RMP objectives, or changes in staffing and budget priorities. Many decisions will be implemented as part of site-specific activity planning and will require NEPA documentation in addition to that provided in the EIS.

34-10: Your comments and suggestions have been considered. Please see response 34-9. Where appropriate, the PRMP provides general management direction for circumstances when goals are not being achieved (for example, see Riparian Areas, Goal 1, #5 and 7).

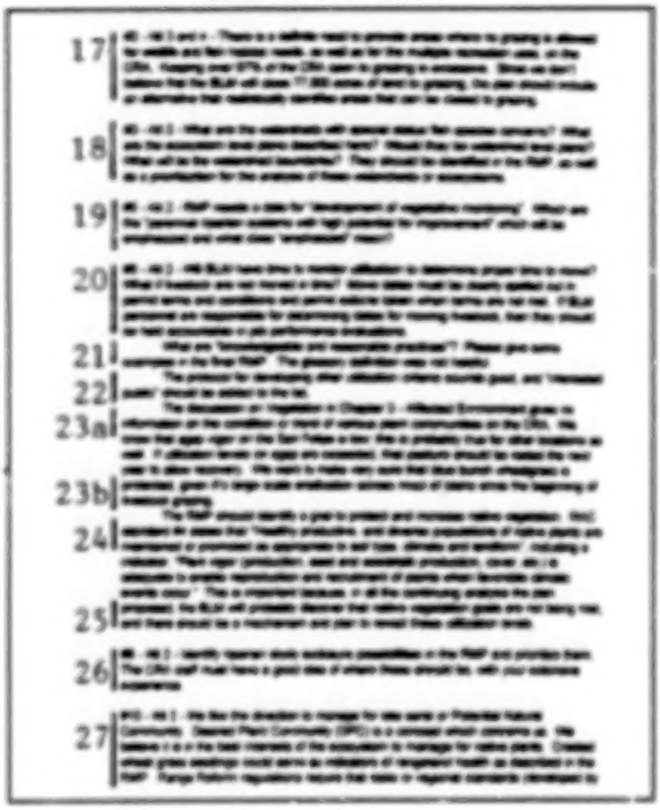
34-11: Please see responses 15-2, 15-3, and 15-7. A summary of studies, inventories, surveys, and other research activities pertinent to the Challis Resource Area is listed in Appendix L, Item 1 of the PRMP.

34-12: Although residents of Blaine, Custer, and Lemhi counties all utilize resources within the Challis Resource Area and some Blaine County businesses are dependent on activities in the CRA, Sun Valley and Ketchum are generally not trading areas for residents of Custer and Lemhi counties. Residents of those counties primarily trade in Salmon, Challis, Idaho Falls, and Missoula. Lemhi and Custer counties have more economic similarities with each other than with Blaine County. The Tendoy-Leadore, Salmon and North Fork subregions were included in the study even though they lie outside the RA boundary because (a) they trade in the Salmon area (Lemhi County) and are thus economically interconnected with subregions that lie within the RA boundary, and (b) they are within the boundary of Lemhi County, a geographic area which was considered as a whole to facilitate discussion of topics such as payments in lieu of taxes.

34-13: (a) Your opinion is noted. BLM believes the social and economic information presented in the PRMP is accurate and appropriate. The Draft RMP was developed following an extensive scoping process, and revised (in the PRMP) after consideration of public comments from local and non-local commentors. Residents of Blaine County were among those who commented during the initial scoping period and submitted letters of comment on the Draft RMP/EIS.

(b) The BLM agrees that the economy and society of Stanley are probably more similar to Blaine County than

Letter No. 34 *continued*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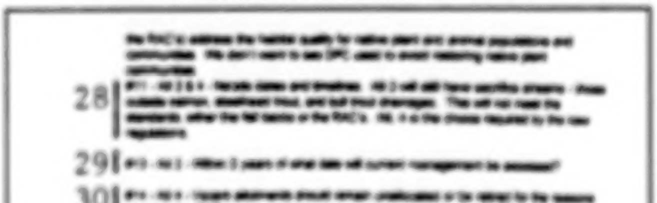
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BLM Response to Letter No. 34 *continued*

to Lemhi or Custer Counties. However, as stated in response 34-12 above, the BLM believes the economic analysis should not be expanded to Blaine County because economic activities of that county center on communities other than Challis or Salmon. Just as the North Fork, Salmon and Tendoy-Leadore subregions were included in the study even though they are outside the RA boundary, the Stanley subregion was included in the study because Stanley lies within Custer County and the study needed to consider counties as whole geographic units. Part of Lemhi County is in the Challis Resource Area land base. The economic focus of the area is also toward Lemhi County (Salmon), especially for those in the Pahsimeroi Valley and even Challis.

34-14: Please see response 34-3.

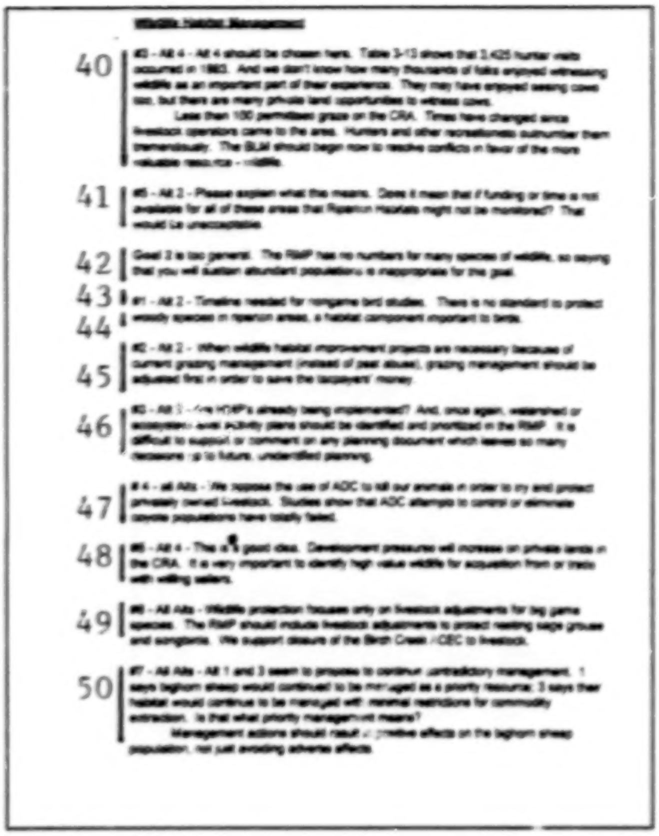
34-15: The PRMP does not set fixed forage allocations. Rather, it describes management to ensure that sufficient vegetative cover is maintained for watershed improvement, plant maintenance, wildlife habitat needs, and wild horse habitat needs. Short term livestock grazing allocations are specified (in AUMs); however, the PRMP decisions and analysis of impacts indicate these allocations would be adjusted as needed to ensure resource conditions are maintained or improved to meet RMP goals.

34-16: Livestock Grazing, Goal 1, #2 in the PRMP sets initial priorities. The Implementation Plan for the RMP will direct how, where, and when future allotment evaluations are scheduled (see response 34-9).

34-17: The BLM believes this was done in the preferred alternative (see DRMP, Management Concern: Livestock Grazing, Goal 1, #2, 19, and 20, pp. 350a and 354a) Similar management was carried forward in the PRMP (see Livestock Grazing, Goal 1, #3, 17, and 18). On the remainder of the Resource Area, the BLM believes that livestock grazing in accordance with PRMP decisions is compatible with other uses.

34-18: Watersheds with special status fish species concerns include those with Federally listed species (chinook and sockeye salmon, steelhead trout, bull trout) or the sensitive species westslope cutthroat trout. This decision has been rewritten in the PRMP (see Livestock Grazing, Goal 1, #4) to clarify that AMPs would be developed or revised following completion of a watershed assessment (see PRMP/FEIS: Glossary and Attachment 5: SOPs, "General" #1). Watershed boundaries would be defined during the assessment process and could vary depending on the needs for analysis; therefore, it would be premature to attempt to identify watershed boundaries at the RMP level.

Letter No. 34 *continued*



Wildlife Habitat Management

40 #3 - Alt 4 - Alt 4 should be chosen here. Table 3-13 shows that 3,425 hunter visits occurred in 1993. And we don't know how many thousands of folks enjoyed witnessing wildlife as an important part of their experience. They may have enjoyed seeing cows too, but there are many private land opportunities to witness cows.

Less than 100 permittees graze on the CRA. Times have changed since livestock operators came to the area. Hunters and other recreationists outnumber them tremendously. The BLM should begin now to resolve conflicts in favor of the more valuable resource - wildlife.

41 #5 - Alt 2 - Please explain what this means. Does it mean that if funding or time is not available for all of these areas that Riparian Habitats might not be monitored? That would be unacceptable.

42 Goal 2 is too general. The RMP has no numbers for many species of wildlife, so saying that you will sustain abundant populations is inappropriate for the goal.

43 #1 - Alt 2 - Timeline needed for nongame bird studies. There is no standard to protect
44 woody species in riparian areas, a habitat component important to birds.

45 #2 - Alt 2 - When wildlife habitat improvement projects are necessary because of current grazing management (instead of past abuse), grazing management should be adjusted first in order to save the taxpayers' money.

46 #3 - Alt 3 - Are HMP's already being implemented? And, once again, watershed or ecosystem- wide activity plans should be identified and prioritized in the RMP. It is difficult to support or comment on any planning document which leaves so many decisions up to future, unidentified planning.

47 # 4 - all Alts - We oppose the use of ADC to kill our animals in order to try and protect privately owned livestock. Studies show that ADC attempts to control or eliminate coyote populations have totally failed.

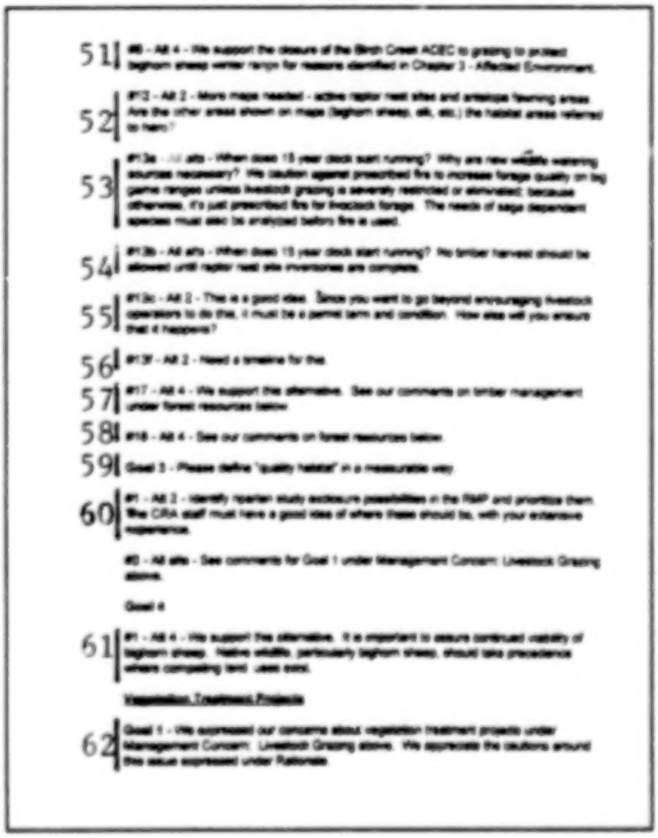
48 #5 - Alt 4 - This is a good idea. Development pressures will increase on private lands in the CRA. It is very important to identify high value wildlife for acquisition from or trade with willing sellers.

49 #6 - All Alts - Wildlife protection focuses only on livestock adjustments for big game species. The RMP should include livestock adjustments to protect nesting sage grouse and songbirds. We support closure of the Birch Creek ACEC to livestock.

50 #7 - All Alts - Alt 1 and 3 seem to propose to continue contradictory management. 1 says bighorn sheep would continued to be managed as a priority resource; 3 says their habitat would continue to be managed with minimal restrictions for commodity extraction. Is that what priority management means?

Management actions should result in positive effects on the bighorn sheep population, not just avoiding adverse effects.

Letter No. 34 *continued*



51 #8 - Alt 4 - We support the closure of the Birch Creek ACEC to grazing to protect bighorn sheep winter range for reasons identified in Chapter 3 - Affected Environment.

52 #12 - Alt 2 - More maps needed - active raptor nest sites and antelope fawning areas. Are the other areas shown on maps (bighorn sheep, elk, etc.) the habitat areas referred to here?

53 #13a - All alts - When does 15 year clock start running? Why are new wildlife watering sources necessary? We caution against prescribed fire to increase forage quality on big game ranges unless livestock grazing is severely restricted or eliminated; because otherwise, it's just prescribed fire for livestock forage. The needs of sage dependent species must also be analyzed before fire is used.

54 #13b - All alts - When does 15 year clock start running? No timber harvest should be allowed until raptor nest site inventories are complete.

55 #13c - Alt 2 - This is a good idea. Since you want to go beyond encouraging livestock operators to do this, it must be a permit term and condition. How else will you ensure that it happens?

56 #13f - Alt 2 - Need a timeline for this.

57 #17 - Alt 4 - We support this alternative. See our comments on timber management under forest resources below.

58 #18 - Alt 4 - See our comments on forest resources below.

59 Goal 3 - Please define "quality habitat" in a measurable way.

60 #1 - Alt 2 - Identify riparian study exclosure possibilities in the RMP and prioritize them. The CRA staff must have a good idea of where these should be, with your extensive experience.

#3 - All alts - See comments for Goal 1 under Management Concern: Livestock Grazing above.

Goal 4

61 #1 - Alt 4 - We support this alternative. It is important to assure continued viability of bighorn sheep. Native wildlife, particularly bighorn sheep, should take precedence where competing land uses exist.

Vegetation Treatment Projects

62 Goal 1 - We expressed our concerns about vegetation treatment projects under Management Concern: Livestock Grazing above. We appreciate the cautions around this issue expressed under Rationale.

BLM Response to Letter No. 34 *continued*

34-19: Vegetative monitoring is an ongoing process that is performed to assess progress towards objectives at the activity plan level. "Perennial riparian systems with high potential for improvement" are those which can respond to management changes to make significant progress towards achieving riparian health. Table 4-7 in Chapter 4, page 226a of the DRMP listed priority streams by allotment. "Emphasis" simply means that those values will raise the level of priority for management planning on those allotments containing perennial riparian systems.

34-20: Pasture movement sequences would be identified in allotment management plans or other resource activity plans that would be developed for allotments. Actual move dates would be determined in response to the condition of the resource and individual permit terms and conditions. BLM grazing regulations provide administrative remedies for failure to meet the terms and conditions of grazing permits. Also see letter 40, responses 40-2, 40-3, 40-4, and 40-5.

34-21: Knowledgeable and reasonable practices would include management practices which meet the objectives and satisfy the evaluation criteria stated in the Glossary definition (see PRMP, Glossary, p. 175). The PRMP contains knowledgeable and reasonable practices for grazing management (see Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #5 and 6), and provides for alternative knowledgeable and reasonable practices to be suggested, evaluated, and, if appropriate, implemented (see Livestock Grazing, Goal 1, #7, paragraph 2 and Riparian Areas, Goal 1, #4).

34-22: The knowledgeable and reasonable practice evaluation procedures provide for the involvement of interested publics. Interested publics may be included on ID teams (see Glossary), and interested publics would be involved in the process of developing site-specific environmental assessments.

34-23: (a) In the PRMP, the BLM's data on the condition of plant communities are summarized by allotment (see Appendix F, Item 2) and also described in Chapter 3 - Livestock Grazing, "Rangeland Inventory" and "Rangeland Monitoring and Evaluation." Vegetation classifications are summarized in Table 3-21: Vegetation Summary for the Challis Resource Area. Appendix L, Item 1: Summary of Studies of the Challis Resource Area was added to the PRMP to list the various inventories and other studies which are ongoing or have been completed.

(b) The BLM believes upland utilization criteria (see PRMP, Livestock Grazing, Goal 1, #7) will be adequate to maintain the vigor of bluebunch wheatgrass on most sites. Additional management actions to protect and

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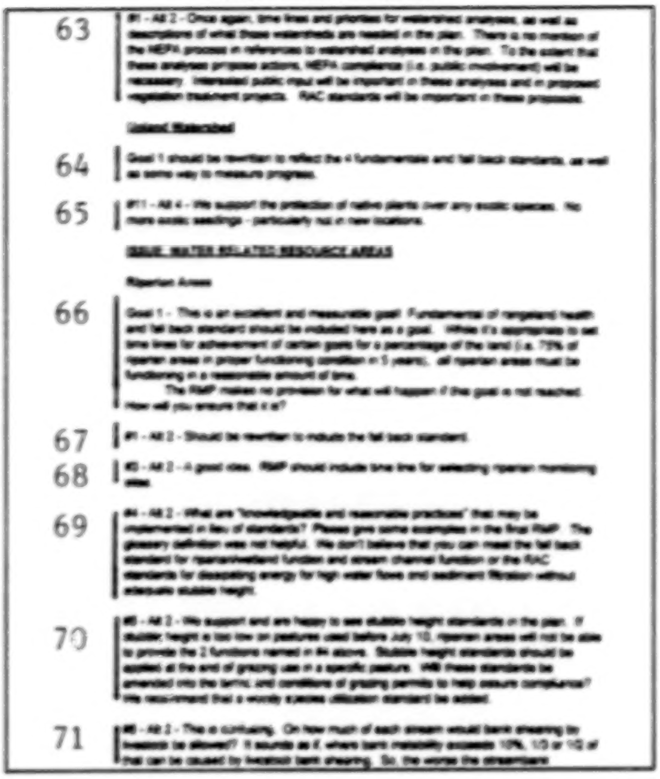
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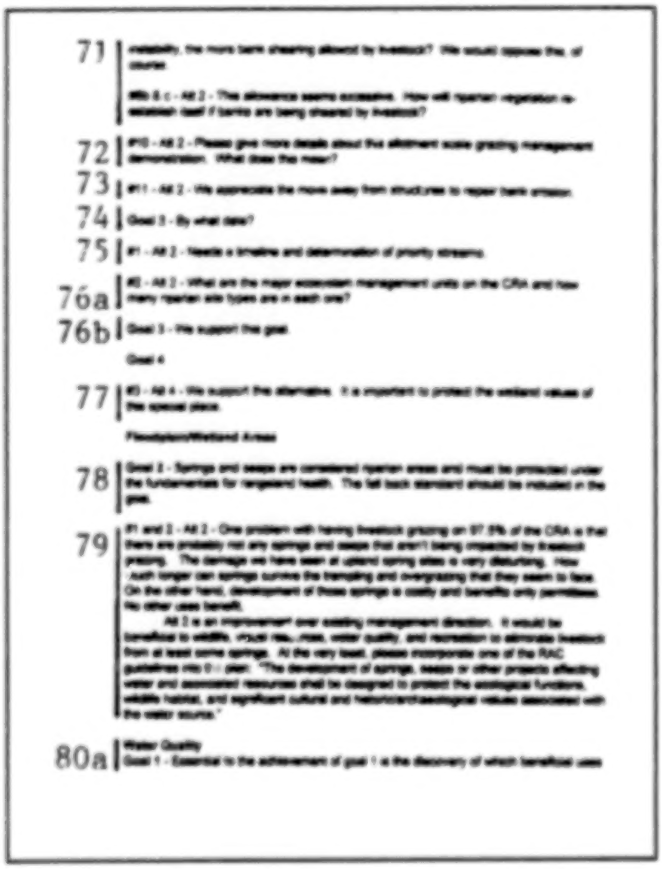
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BLM Response to Letter No. 34 *continued*

improve the vigor of bluebunch wheatgrass would be identified for individual sites when Allotment Management Plans or other activity plans are developed or revised.

34-24: The PRMP provides for management for late seral or PNC vegetation (which would include native species) to achieve the goals stated in Livestock Grazing, Goal 1 (see Livestock Grazing, Goal 1, #10). Various design specifications stress maintenance and restoration of native vegetation (see PRMP, Attachment 8: Design Specifications, "General" #3-5). Also see response 34-3.

34-25: The BLM believes the second paragraph of Livestock Grazing, Goal 1, #7 (see PRMP) provides an adequate mechanism for revising the proposed utilization criteria.

34-26: An RMP provides general management direction and is not intended to identify site-specific project locations. An interdisciplinary team would determine the location and priority of riparian study projects during development of activity plans for specific allotments or watersheds. Riparian study sites would be selected according to guidelines stated in the PRMP under Riparian Areas, Goal 2, #3.

34-27: Livestock Grazing, Goal 1, #10 states that the BLM would manage for a Desired Plant Community only if it would better meet the goals of rangeland health. On certain sites and in the short term, DPC objectives may be more practical than PNC objectives for achieving the fundamentals of rangeland health. Also see response 34-3.

34-28: This decision has been revised in the PRMP to apply the action to all fish-bearing streams (see PRMP, Livestock Grazing, Goal 1, #11). The timeframe for completing these actions would be identified in the Implementation Plan for the approved RMP (see response 34-9).

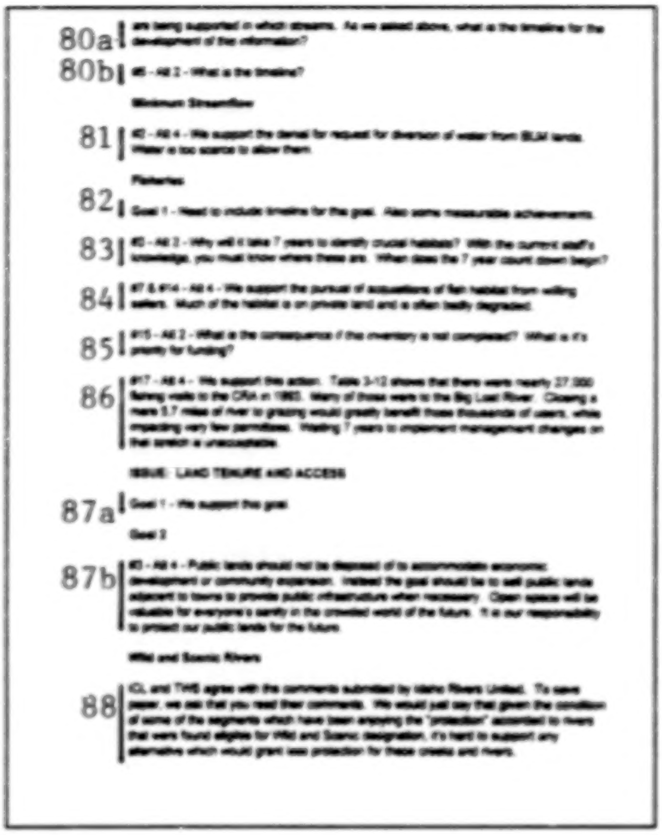
34-29: This action has been deleted from the PRMP, since the assessment and adjustments in grazing practices have already been completed.

34-30: Your preference for Alternative 4 is noted. Management under Alternative 2 which allows vacant allotments to be unallocated and scheduled for intermittent or temporary use, would allow the BLM flexibility to improve rangeland conditions elsewhere in the Resource Area.

34-31: Please see response 31-156(a).

34-32: This decision and all other references to watershed analysis have been deleted in the PRMP. Livestock carrying capacity would be determined according to Livestock Grazing, Goal 1, #2. Season of use would be

Letter No. 34 *continued*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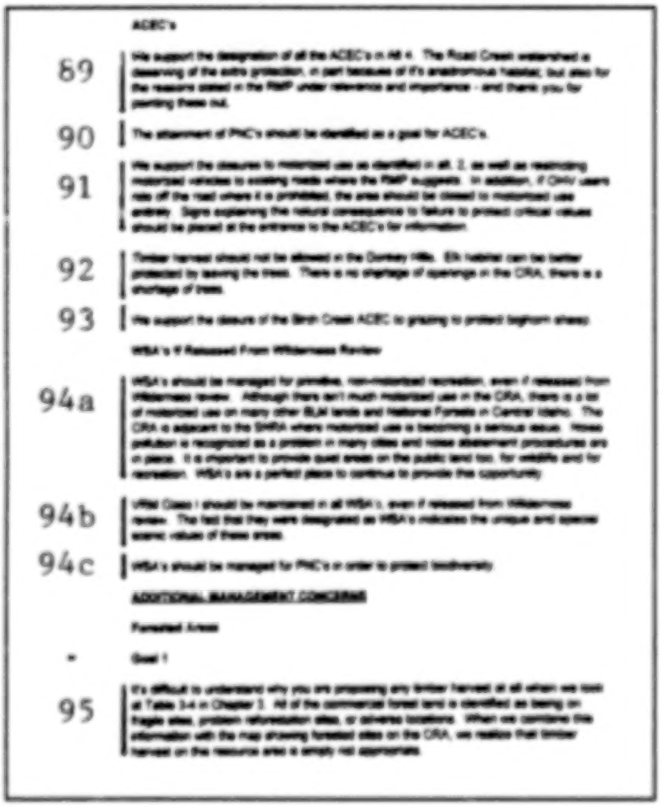
Letter No. 34 *continued*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BLM Response to Letter No. 34 *continued*

determined through periodic review and/or renewal of grazing permits. Timelines for completing these actions would be included in the Implementation Plan for the approved RMP.

34-33: Please see response 34-2.

34-34: Challis Resource Area staff will make periodic inspections for compliance. The number of inspections would depend on staffing levels, funding, and priorities. BLM grazing regulations have procedures to follow if range improvement maintenance is not done.

34-35: Your preference for Alternative 5 is noted. Prescribed burning of sagebrush for resource objectives other than livestock forage have been conducted in the Challis RA specifically for bighorn sheep on bighorn winter ranges. Most of these burned areas are not grazed by livestock due to steepness of slope, or because they are within areas closed to livestock use. The BLM believes that the PRMP decisions related to vegetation treatments (e.g., prescribed burns) would adequately protect other resource values (see PRMP, Rangeland Vegetation Treatment Projects, Goal 1, #1-7 and Attachment 8: Design Specifications, "Rangeland Improvement" #2 and 7).

34-36: Your preference for a cost-benefit analysis of any new livestock facilities is noted. A site-specific environmental assessment would be completed on all livestock management facilities prior to construction. An environmental assessment is essentially a non-economic cost-benefit analysis that considers the benefits of the project and potential for adverse effects on other resource values. Removal of livestock may be considered as an alternative on a case-by-case basis.

34-37: The PRMP has been revised in response to your comment. The PRMP emphasizes the propagation and health of native plant communities (see Livestock Grazing, Goal 1 and decision #10). Native species would also be emphasized when designing vegetation treatment projects; non-native species would be included in the seed mix only when resource conditions or project objectives warrant their use (see PRMP, Attachment 8: Design Specifications, "General" 3-5).

34-38: Please see the Glossary definition of "allotment categorization."

34-39: Please see response 34-37.

34-40: Your preference for Alternative 4 is noted. Please see response 32-8.

34-41: This decision is intended to identify monitoring priorities among wildlife habitats in the Challis Resource Area.

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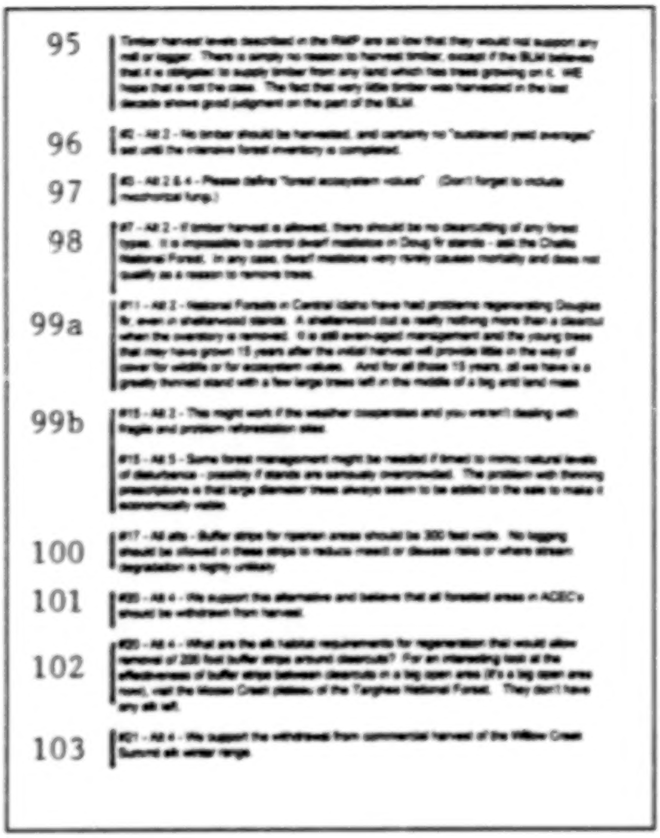

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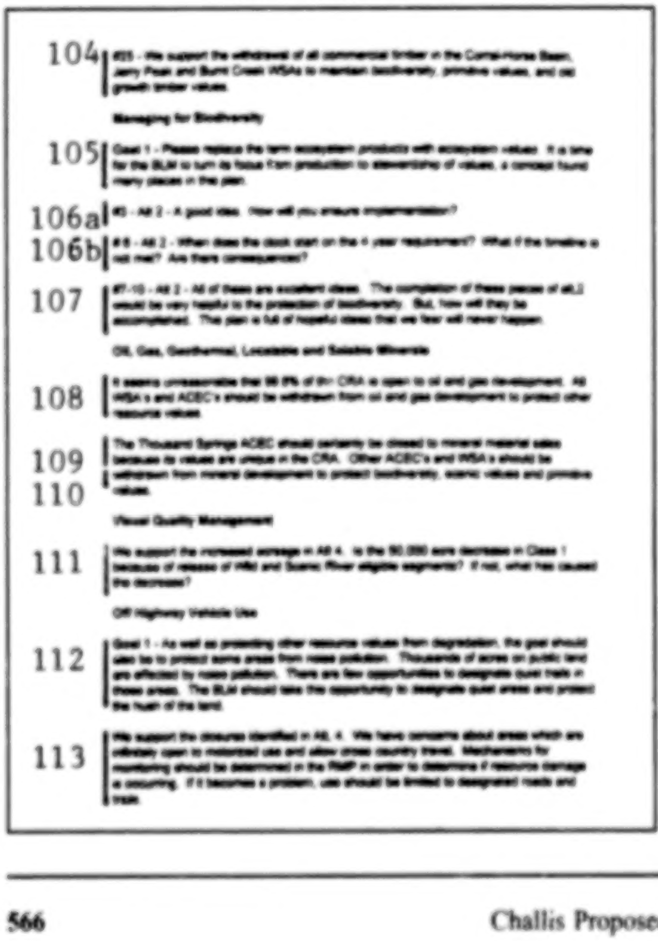

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BLM Response to Letter No. 34 *continued*

The decision has been reworded in the PRMP to clarify that each habitat area has equal priority for monitoring.

34-42: Although the BLM agrees that specific data on the abundance of many wildlife species are limited, goal statements are generally written in relative terms to establish an intent. Please also see response 31-3.

34-43: Non-game bird studies are ongoing (see PRMP, Appendix L, Item 1 for studies performed to date). The BLM's ability to perform future studies is influenced by overall funding priorities and special funding opportunities such as cost-sharing grants.

34-44: Woody riparian habitats important to non-game birds would be protected by the riparian stubble-height and bank shearing criteria established in the PRMP (see Riparian Areas, Goal 1, #5 and 6). These criteria are expected to limit utilization of woody riparian vegetation and promote the productivity and health of riparian communities, without specific utilization limits on woody species. BLM would prefer to establish species-specific limits on woody use at the activity planing level, if an interdisciplinary team determines that use limits are necessary (see PRMP, Attachment 3, last paragraph).

34-45: Your preference is noted.

34-46: This decision is clarified in the PRMP - see Wildlife Habitat, Goal 2, #3.

34-47: Your preference is noted. Please see response 14-4.

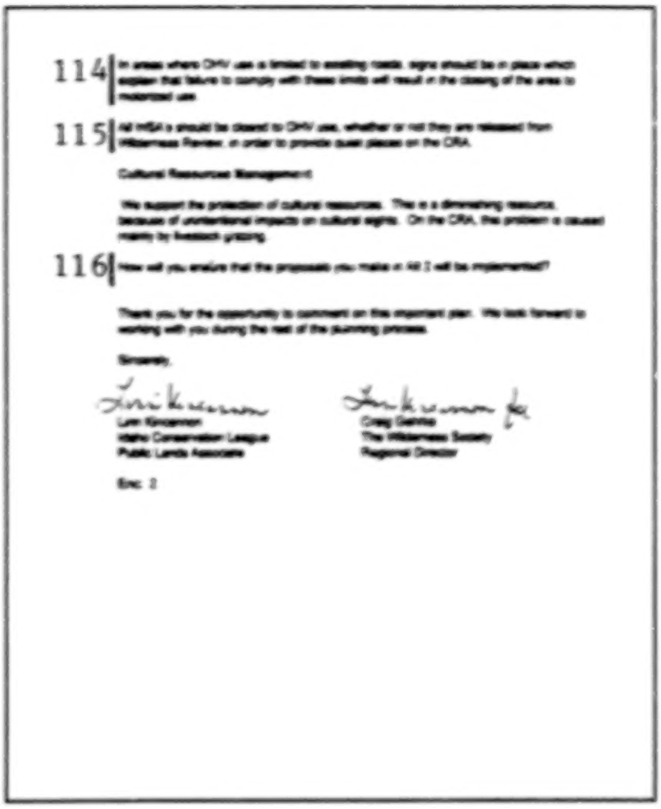
34-48: Your preference for Alternative 4 is noted.

34-49: BLM believes that PRMP utilization criteria for key forage species (Livestock Grazing, Goal 1, #7), coupled with riparian stubble-height and bank shearing criteria (Riparian Areas, Goal 1, #4-7) would maintain or improve nesting habitat for sage grouse and songbirds. Please also see responses 31-146, 32-10, and 32-14.

34-50: This decision was revised in the PRMP (see Wildlife Habitat, Goal 2, #6). Alternatives 1 and 3 in the DRMP represented differences in emphasis on management of resources and were intended to display a range of reasonable management options. Alternatives 1 and 3 are meant to have different meanings, as each alternative displays a different management philosophy (discussed on pp. 24-25 of the DRMP).

34-51: Your preference for Alternative 4 is noted.

34-52: The DRMP provided maps of big game winter ranges, Donkey Hills elk calving areas, and sage grouse winter ranges and strutting grounds (Maps 3, 8, 12, 28, and 36).



114 In areas where OHV use is limited to existing roads, signs should be in place which explain that failure to comply with these limits will result in the closing of the area to motorized use.

115 All WSAs should be closed to OHV use, whether or not they are released from Wilderness Review, in order to provide quiet places on the CRA.

Cultural Resources Management

We support the protection of cultural resources. This is a diminishing resource, because of unintentional impacts on cultural sights. On the CRA, this problem is caused mainly by livestock grazing.

116 How will you ensure that the proposals you make in Alt 2 will be implemented?

Thank you for the opportunity to comment on this important plan. We look forward to working with you during the rest of the planning process.

Sincerely,

Linn Kincannon
Idaho Conservation League
Public Lands Associate

Craig Gehrke
The Wilderness Society
Regional Director

Enc: 2

These maps delineate only some of the habitat areas referred to in Wildlife Habitat Management, Goal 2, #12.

34-53: (a) The 15 year timeframe was established as a general goal for accomplishing the actions listed, and would begin when the Record of Decision for the approved RMP is signed. (b) Habitat suitability can be improved for many species by providing water sources in otherwise dry areas. Please see response 31-372. (c) All prescribed burn proposals would be subject to an environmental assessment to document expected effects on other resources, including sagebrush-dependent wildlife species. Please see response 34-35.

34-54: The 15 year timeframe would begin when the Record of Decision for the approved RMP is signed. It is a general goal for completion of forest raptor surveys on all commercial forest areas in the Challis RA. However, it is expected that a site-specific raptor nest site survey would be completed prior to timber harvest on any proposed timber sale area (see PRMP, Wildlife Habitat, Goal 2, #8 and 9(b)).

34-55: Your opinion is noted. Permit terms and conditions are developed on a case-by-case basis. The decision you have cited would be included when appropriate.

34-56: Timelines for developing and revising activity plans would be identified in the RMP Implementation Plan.

34-57: Your preference for Alternative 4 is noted. Please see response 16-3(e).

34-58: Please note that Alternative 4 and the Preferred Alternative are the same. This management is included in the PRMP. The BLM could not find any further comment on this decision in the "Forest Resources" section of your letter.

34-59: Quality habitat is highly diverse, varying by species, and thus, cannot be defined under this goal in a measurable or meaningful way for all riparian-dependent wildlife species. Many species have their own unique habitat requirements.

34-60: Please see response 34-26.

34-61: Your preference for Alternative 4 is noted.

34-62: Your concerns and preferences are noted.

34-63: This decision has been revised in the PRMP. Any rangeland improvement project proposal would be evaluated during activity or project planning, with full public involvement and compliance with BLM policies, including current standards for rangeland health and

BLM Response to Letter No. 34 *continued*

guidelines for grazing administration.

34-64: (a) The PRMP adds a decision which addresses compliance with current standards for rangeland health and guidelines for grazing administration (see Livestock Grazing, Goal 1, #1). The Upland Watershed goal to achieve "satisfactory condition watersheds" (see Glossary: watershed condition class) is consistent with these standards and guidelines. (b) The PRMP specifies several means to measure progress towards achieving upland watershed health, including periodic Ecological Site Inventory, analysis, interpretation, and evaluation of long term upland monitoring studies, and rangeland health assessments.

34-65: Your support for Alternative 4 is noted. The use of non-native species may be necessary for recovery of some sites (see PRMP, Attachment 8: Design Specifications - "General" #3 and 4).

34-66: Your comments are noted. Please see responses 31-316, 34-1, and 34-3.

34-67: Your opinion is noted. Please see response 34-3.

34-68: Riparian monitoring is ongoing in the Challis RA, with several new key areas being established each year. Monitoring sites are selected in conjunction with activity planning, as they are the primary means of assessing progress towards site-specific resource objectives. The schedule for implementing monitoring is dynamic and would not be appropriate for inclusion in the PRMP.

34-69: See responses 34-3 and 34-21.

34-70: (a) The PRMP has been revised to state that riparian stubble height standards must be maintained during the scheduled grazing period, or, on pastures grazed before July 10, sufficient regrowth prior to the end of the growing season must be expected (see PRMP, Riparian Areas, Goal 1, #5). (b) Stubble height criteria would be implemented upon signature of the Record of Decision for the approved RMP. Criteria would be incorporated into the terms and conditions of grazing permits as appropriate. (c) Your opinion is noted.

34-71: This decision has been rewritten in the PRMP (see Riparian Areas, Goal 1, #6).

34-72: Please see response 31-83.

34-73: Your support for Alternative 2 is noted.

34-74: The activities in Goal 2 are ongoing.

34-75: Timelines and priorities for determining support status of streams will be identified in the Implementation Plan for the approved RMP.

34-76: (a) This decision has been clarified in the PRMP (see Riparian Areas, Goal 3, #2). The intent of the decision is to develop riparian exclosures throughout the Resource Area that would provide a reasonable representation of the variety of riparian site types for future use as reference areas. (b) Your support for Goal 3 is noted.

34-77: Your support for Goal 4, #3, Alternative 4 is noted. The PRMP has incorporated this provision.

34-78: Your opinion is noted. Please see response 34-3.

34-79: Your preference is noted. The PRMP has incorporated the Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management (see response 34-3). Attachment 8: Design Specifications, "Rangeland Improvements" #4 and 8 detail the parameters to be used for the protection of developed springs and seeps.

34-80: (a) The beneficial use and support status information available to the BLM at the time the PRMP was published is shown in Appendix J, Item 1. No timeline has been established for achieving Water Quality, Goal 1, since the workload is unknown. Current water quality of all streams has not been assessed, nor have all problem areas been identified and evaluated. Please also see response 34-75.

(b) The timeline for implementing Management Concern: Water Quality, Goal 1, #5 will be established in the Implementation Plan for the Challis RMP. Please note that this decision does indicate priority streams.

34-81: Your preference for Alternative 4 is noted. Please see response 16-7.

34-82: A timeline for achieving Management Concern: Fisheries, Goal 1 is not realistic because many of the PRMP fisheries decisions involve ongoing activities, such as monitoring (Goal 1, #3, as revised in the PRMP) and cooperative management (Goal 1, #5, 6, 9). Where appropriate, the PRMP fisheries decisions specify a timeframe.

34-83: The timeframe has been deleted from the PRMP. Identification of crucial habitats was completed in 1994, although refinement of habitat and population data are ongoing efforts performed as necessary.

34-84: Your preference for Alternative 4 is noted.

34-85: Most of the fish distribution work has been completed (see response 34-83 above), but the habitat inventory, following R1/R4 survey protocols, may take several years, given current funding and staffing levels. Inventory efforts have thus far provided a good indication of habitat condition on most streams. This effort continues to be one of the highest priorities in the Resource Area for funding.

34-86: Your preference for Alternative 4 and opinions about Alternative 2 are noted.

34-87: (a) Your support of Goal 1 is noted. (b) Your opinion is noted. The Federal Land Policy and Management Act of 1976, Title II -- Land Use Planning; Land Acquisition and Disposition, Sec. 203 Sales, (a)(3) provides for disposition through sale for the purposes you oppose.

34-88: Your support of Idaho Rivers United's comments is noted. Please see the responses to letter 22.

34-89: Your preference for Alternative 4 is noted. Please see response 6-3.

34-90: Unless another desired plant community better meets resource needs, attainment of PNC is a goal for the entire Resource Area, including ACECs; see PRMP, Livestock Grazing Goal 1, #10.

34-91: Your opinions and suggestions are noted. The PRMP limits motorized vehicle use to existing roads, vehicle ways and trails throughout the Resource Area, unless more stringent limitations or closures apply (see PRMP, OHV Use, Goal 1).

34-92: Your preference for Alternative 4 and your opinions are noted. Based on the analysis of environmental consequences, the BLM believes elk habitat in the Donkey Hills ACEC can be managed in conjunction with timber harvest (also see response 34-101).

34-93: Your preference for Alternative 4 is noted. The BLM believes bighorn sheep habitat in the Birch Creek area can be adequately protected without closing the area to grazing; see PRMP, Wildlife Habitat, Goal 2, #6.

34-94: (a) Your opinions regarding motorized vehicle use in WSAs if released are noted. Proposed OHV management would continue to limit OHV use in WSAs, even if released from wilderness review (see PRMP, Off-highway Vehicle Use, Goal 1, #3). (b) Your opinion is noted. (c) Your preference is noted. Most WSA acreage is estimated to be in late seral stage, or at PNC; this condition should be maintained through the management proposed in the PRMP.

34-95: Please see responses 26-6 and 31-27. Approximately 60% of forest land in the Resource Area is not proposed for commercial timber harvest in the PRMP. Although commercial forest sites have relatively low productivity and management problems, they are manageable. Little timber was harvested in the Resource Area during the past decade because forest management efforts focused on backlog regeneration projects (see DRMP, p. 207a, Note #1).

34-96: Your opinion is noted. The PRMP proposes harvest limits within the sustained yield levels calculated through extensive inventories. The decadal sustained yield average proposed while inventories are being completed (6.60 MMBF/decade) is well below the current allowable sale quantity (922 MBF/year) and recent harvest levels, and is considered sustainable, based on eastern Idaho zone forest inventories completed in 1984 (see DRMP, p. 227a, analysis point #2, Alternative 2 and p. 207a, Note #1).

34-97: Forest ecosystem values include all abiotic and biotic components necessary for long term sustainability of forests. In order to maintain forest ecosystem values, the BLM must maintain all the parts of the forest community, regardless of whether or not their function in the complex system is fully understood.

34-98: Please see responses 31-105(a) and 31-107. Regarding your point on dwarf mistletoe, planting of non-host species has resulted in mistletoe-free stands in the Lemhi Resource Area (which adjoins the Challis Resource Area). Your point about dwarf mistletoe-caused mortality is usually true. However, the BLM regularly observes significantly increased mortality in heavily mistletoed forest stands, often caused by secondary factors such as insects (usually Douglas-fir beetle) due to tree weakening. For example, in the Birch Creek area within the Lemhi Resource Area, up to one tenth of the mistletoed trees noted alive in 1986 are currently dead (Elzinga, personal observation, October, 1997).

34-99: (a) Natural regeneration has not been a problem in most of the CRA. In fact, in the similar dry conditions of the Lemhi RA, excessive amounts of regeneration have become a concern; excessive regeneration has most often occurred on shelterwood cuts. In the forests of both the Lemhi and Challis RAs, only one (90 acre) overstory removal has been implemented on a shelterwood harvest area to date. All of the other re-harvested shelterwood stands have been logged to remove the dying, diseased, or poor vigor trees for stand maintenance. In some stands, group selection (less than .25-acre groups removed) has been used to release regeneration or enhance the growth of new regeneration.

(b) Your comments are noted. Commercial thinning has not been economically viable in the CRA, due to the small diameter trees and distance from multiple product centers like particle board and pulp mills.

34-100: Your comments are noted. This decision has been revised in the PRMP to clarify the BLM's proposed management of commercial timber harvest activities in riparian habitats (see Forest Resources, Goal 1, #15). The BLM prefers to retain the flexibility to manage forest stands within riparian areas in order to promote and sustain long term watershed health.

34-101: Your preference for Alternative 4 and your other comments are noted. The Donkey Hills ACEC is proposed to maintain elk winter range and calving habitat. Harvesting as proposed in the PRMP would not change human access to the area or significantly alter current elk hiding and/or thermal cover in the Donkey Hills. Forage may increase as a result of timber harvest. As a result, the values for which the Donkey Hills ACEC has been proposed would not be compromised through timber harvest, and timber harvest could continue without adverse effects on elk.

34-102: When buffer strips can be removed would be determined in the future by BLM staff specialists in consultation with IDFG and appropriate Federally recognized tribes. Only 2 to 3 percent of commercial timber in the Donkey Hills is in lodgepole pine dominated stands. As a result, widespread clearcuts could not occur within the Donkey Hills under the PRMP (see ACECs, Donkey Hills ACEC, #3(c)). Buffer strips would then primarily exist only around group selection and shelterwood cuts in Douglas-fir stands, where there would be large amounts of post-harvest timber. The comparison with the Moose Creek plateau of the Targhee National Forest is inconsistent with management techniques that would be employed under the PRMP.

34-103: Your preference for Alternative 4 is noted.

34-104: Your opinion is noted.

34-105: The PRMP has been revised to read "ecosystem products and values."

34-106: (a) This management decision is not included in the PRMP. (b) The PRMP does not specify a timeframe for accomplishing this action.

34-107: Your support of Biodiversity, Goal 1, #7-10, Alternative 2 is noted. The Challis Resource Area will seek partnerships and other opportunities to implement these decisions. The schedule for implementing these actions will be established in the Implementation Plan for the approved RMP.

BLM Response to Letter No. 34 *continued*

34-108: Your opinion is noted. Please be aware that the potential for oil and gas leasing in the Challis Resource Area is low (see PRMP, Map 31). Existing WSAs are closed to energy mineral development. In WSAs if released from wilderness review, stipulations would be applied to protect resource values. (See PRMP, Minerals, Goal 1, #4.) Resource values in designated ACECs would be protected by standard stipulations, which can include "no surface occupancy" (see PRMP, Minerals, Goal 1, #5). The BLM believes the PRMP's provisions for stipulations to protect resource values are sufficient; no withdrawal is necessary.

34-109: Your preference for Alternative 4 is noted. Mineral material sales are discretionary actions and can be refused for any particular site.

34-110: Your opinion is noted.

34-111: Your preference of Alternative 4 is noted. Please see response 31-23.

34-112: In general, the PRMP limits OHV use to existing roads, vehicle ways, and trails throughout the Resource Area (see PRMP, Off-highway Vehicle Use). The PRMP's proposed changes in OHV management are in response to public concern over the impacts of OHVs (including noise pollution) on other resources, activities and uses. OHV use is restricted in some areas (e.g., WSAs) where motorized vehicle travel would affect primitive resource values such as solitude and quiet.

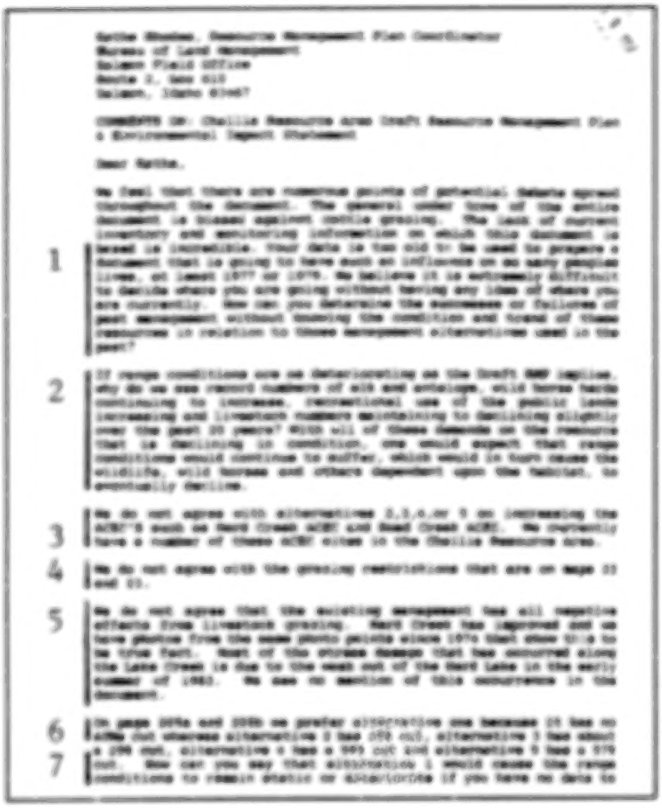
34-113: Your support for Alternative 4 is noted. No areas within the Challis Resource Area would be "open" to OHV use (cross-country travel) under the PRMP (see PRMP, OHV Use, Goal 1).

34-114: Once the RMP is signed, an OHV implementation plan would be developed to manage OHV use. Maps and narratives describing permissible OHV activities would be developed and made available to the public. Signs indicating permissible uses would also be placed along vehicle travel routes. If necessary, appropriate action would be taken to enforce these decisions.

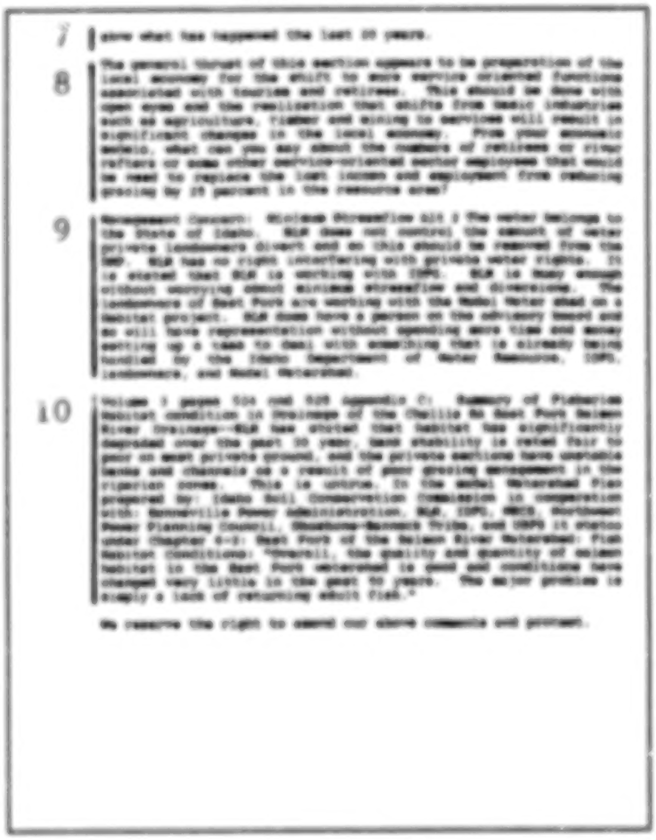
34-115: Your opinion is noted. Please see response 34-112.

34-116: Management of cultural resources in the Challis Resource Area will be in conformance with the approved RMP, as required by Sec. 302(a) of FLPMA. Cultural resource management will also be consistent with other relevant law, regulation, and policy (such as the ARPA, American Antiquities Act, and National Historic Preservation Act). The cultural resources decisions in the PRMP will be implemented according to the Implementation Plan for the approved RMP.

Letter No. 35



Letter No. 35 *continued*



BLM Response to Letter No. 35

35-1: Please see response 20-1.

35-2: Please see response 20-9.

35-3: Your preference for Alternative 1 (no additional ACEC designations) is noted.

35-4: Your preference is noted. These alternatives were not adopted in the PRMP.

35-5: (a) The Draft RMP/EIS acknowledges the economic benefits of livestock grazing.

(b) Resource conditions along Herd Creek have improved under grazing management applied since 1993, as evidenced by the results of the recent 1995 upland range inventory of the Herd Creek and Warm Springs allotments. Analysis of these data shows a generally favorable trend on the upland portions of those allotments. This favorable trend is believed to be the result of implementing intensive grazing systems and constructing new range improvement projects. Riparian habitat improvement has been measured on numerous streams within the East Fork Salmon River drainage since initial baseline data were established in 1993. Within the Herd Creek Allotment, noticeable improvement has been documented in Herd Creek and Lake Creek.

(c) The BLM acknowledges that damage caused by natural catastrophic events can have adverse effects on stream channels. However, certain areas in the Herd Creek Allotment, including the Lake Creek drainage above the lake, have sustained past levels of livestock use that have adversely affected riparian and aquatic habitats. Damage would likely have been less, and recovery rates after natural occurrences more rapid, with lower levels of livestock use. There is no mention of the 1982 natural event in the Draft RMP because this level of detail was not essential to the development of an adequate plan and NEPA analysis.

35-6: Your preference for Alternative 1 is noted.

35-7: The effectiveness of past rangeland management actions was evaluated in 1992 through an analysis of 120 upland trend studies, which included nested frequency data and permanent photo plots. This analysis indicated that management applied up until 1992 had produced only very limited changes in resource conditions (see PRMP, Chapter 3 - Livestock Grazing, "Rangeland Monitoring and Evaluation").

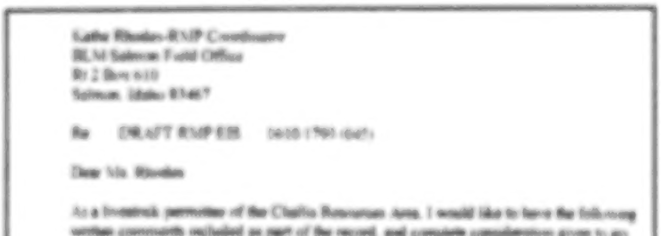
35-8: Please see response 20-12.

35-9: Your comments are noted. Please see response 16-7.

BLM Response to Letter No. 35 *continued*

35-10: Please see response 25-11.

Letter No. 36



Kathe Rhodes-RMP Coordinator
BLM Salmon Field Office
Rt 2 Box 610
Salmon, Idaho 83467

Re: DRAFT RMP EIS (1610 1793 (045))

Dear Ms. Rhodes

As a livestock permittee of the Challis Resource Area, I would like to have the following written comments included as part of the record, and complete consideration given to my comments concerning the Challis Draft RMP EIS, dated May 1996.

1 I realize that accompanying changes in political administrations, new public policies are adopted to express the desired goals of that particular administration. It is obvious to me that the Fundamental Rangeland Health and Standards Guidelines For Grazing Administration (subpart 4180, August, 1995), as adopted by the current administration, were designed to achieve specific administration goals, and these goals are not favorable to the continued existence of grazing the public lands. As government employees, you are compelled to administer accordingly, or suffer the consequences of being removed in favor of someone who will follow these directives. My greatest objection to this procedure is the total disregard given to the previous goals and standards that were implemented to attain a similar result: improved rangeland health.

Each time new rangeland health objectives are being adopted, the message being given to society is that the old standards were a failure. Because both you and I (you as agency personnel calling the shots, and I as a permittee complying to your decisions) are looked on as the prime culprits of NOT meeting the new goals, it only follows that society will view us as failures as well. Maybe you are content with that, but I am not. I also do not believe the old standards were failures, and one look at comparison photographs of the rangeland conditions will prove my point.

As you well know, I have cooperated with your agency to the fullest extent possible in trying to attain the desired goals. This I have done even at times when we didn't agree on the specified action. But, then again, I really do not have any choice given that you are the agency who decides the goals and directs the actions. I am the permittee who must adhere to your policies or be removed from using the range. This process has been repeated a number of times. Now, you are giving me a new set of goals and directives to comply with which says that the old ones were a failure. I object to your reasoning, your actions, and your ID Team's conclusions.

2 The three Management Framework Plans currently being used to determine stocking rates, etc. have been effective in accomplishing the desired results: improved rangeland health. These current goals have been modified and revised a number of times in order to comply

BLM Response to Letter No. 36

36-1: Your comments are noted.

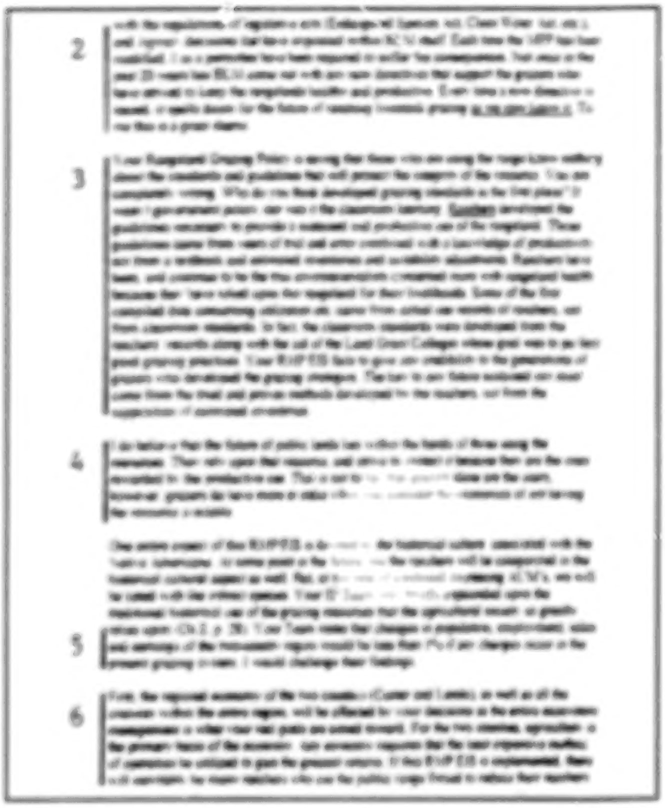
36-2: Although the management provisions of the existing Management Framework Plans (MFPs) have contributed some to the improvement of range conditions, existing management has not been successful at improving range conditions throughout the Resource Area. Implementation of the Proposed RMP and the Standards and Guidelines for livestock grazing administration (43 CFR 4180) would enhance efforts to improve rangeland health.

36-3: Your comments are noted.

36-4: Your opinions are noted.

36-5: The economic model the BLM used was specific for the region and based on information collected through the University of Idaho and the Cooperative Extension System of Custer and Lemhi counties. Based on expected changes to grazing management from Alternative 1 (existing management) to Alternative 2, the economic model indicates less than 1% decrease in population, employment, earnings, and sales would occur in the two-county region. These changes are not as large as you might have expected, because the two-county economy is diverse - grazing is just one of many economic activities which occurs in the two-county region. For the Pahsimeroi subregion, where the economy is predominantly agricultural, the impacts

Letter No. 36 *continued*



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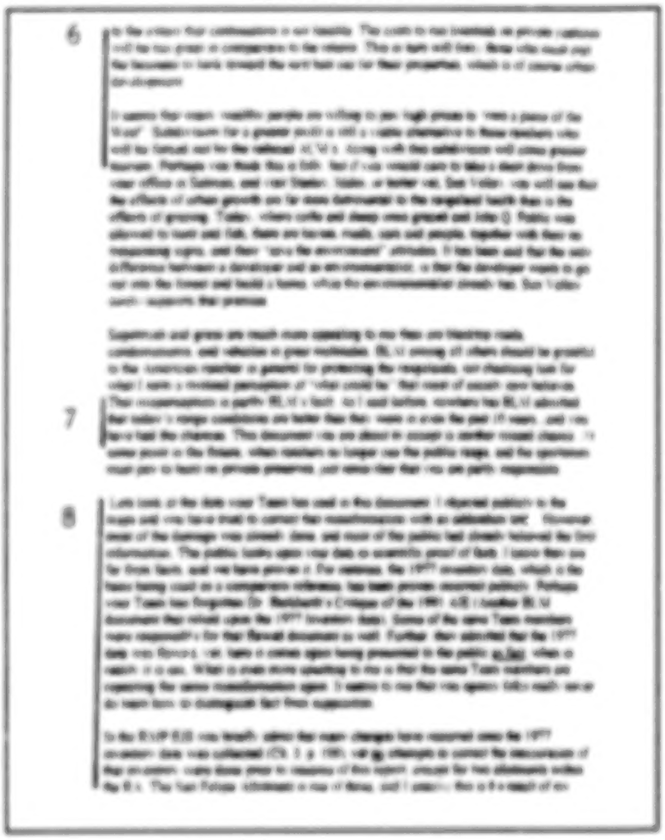


BLM Response to Letter No. 36 *continued*

would be greater (see DRMP pp. 205-206 and response 27-25.)

36-6: The analysis of impacts acknowledges that RMP decisions would affect the Custer-Lemhi counties' regional economy, but impacts are expected to be minor (see DRMP, p.205a/b, #1). This is because the economy of the two-county region is diverse (based upon activity in several economic sectors); agriculture is only one of many components of the two-county economy (see DRMP, Appendix B, Items 1 and 3, pp. 504 and 506). Agriculture, mining, and business associated with visitors to the area all have a sizeable proportion of employment, sales, and earnings. Local use of public lands generates only a small proportion of the area's economic activity. Impacts were not calculated for regions of Idaho outside of Custer and Lemhi counties for several reasons (see response 31-46).

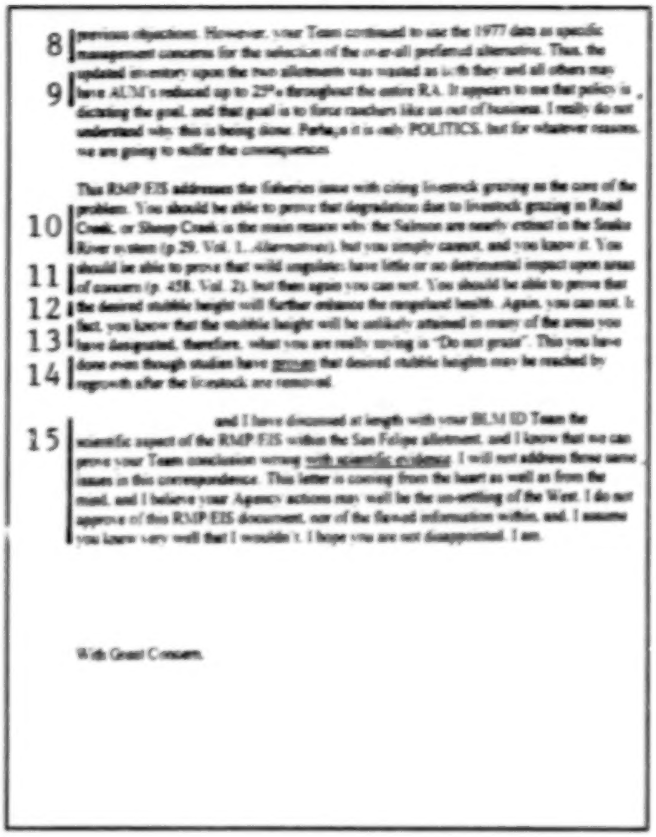
The BLM believes that many operators would be able to comply with the RMP's grazing management actions without any reduction in AUMs. It is also expected that conversion of agricultural lands to urban development would not occur in most cases. Strategies such as modified season of use, increased riding, improved livestock distribution, or fencing may satisfactorily address rangeland health concerns.

36-7: The PRMP has been revised to incorporate more recent information on range condition (see Chapter 3 - Livestock Grazing, "Rangeland Inventory" and "Rangeland Monitoring and Evaluation"). Also see response 15-2.

36-8: Your comments regarding the 1977 range inventory data are noted. The 1977 data were not the primary data or the only data used to develop and analyze the impacts of the grazing management decisions in the PRMP. The BLM does not believe that the 1977 inventory data were proven incorrect or that the data must be discarded or ignored because they are disputed by an individual.

36-9: The 1977 inventory would not be used to reduce permitted livestock use on an allotment-by allotment basis. The PRMP analysis of impacts states that the management decisions outlined in the PRMP could "result in estimated annual livestock use up to about 12,657 AUMs (about 25%) below the active grazing preference..." This 25% estimate was for the Resource Area as a whole, not for individual operators or allotments. Some allotments may experience no change in annual use, while others may experience reductions greater than 25% in order to improve resource conditions, particularly on stream-side riparian areas.

36-10: The Draft RMP, Volume 1, p. 29, does not state or imply



8 previous objections. However, your Team continued to use the 1977 data as specific
management concerns for the selection of the over-all preferred alternative. Thus, the
updated inventory upon the two allotments was wasted as both they and all others may
9 have AUM's reduced up to 25% throughout the entire RA. It appears to me that policy is
dictating the goal, and that goal is to force ranchers like us out of business. I really do not
understand why this is being done. Perhaps it is only POLITICS, but for whatever reasons,
we are going to suffer the consequences.

This RMP/EIS addresses the fisheries issue with citing livestock grazing as the core of the
problem. You should be able to prove that degradation due to livestock grazing in Road
10 Creek, or Sheep Creek is the main reason why the Salmon are nearly extinct in the Snake
River system (p.29, Vol. 1, *Alternatives*), but you simply cannot, and you know it. You
11 should be able to prove that wild ungulates have little or no detrimental impact upon areas
of concern (p. 458, Vol. 2), but then again you can not. You should be able to prove that
12 the desired stubble height will further enhance the rangeland health. Again, you can not. In
fact, you know that the stubble height will be unlikely attained in many of the areas you
13 have designated, therefore, what you are really saying is "Do not graze". This you have
14 done even though studies have proven that desired stubble heights may be reached by
regrowth after the livestock are removed.

15 and I have discussed at length with your BLM ID Team the
scientific aspect of the RMP/EIS within the San Felipe allotment, and I know that we can
prove your Team conclusion wrong with scientific evidence. I will not address these same
issues in this correspondence. This letter is coming from the heart as well as from the
mind, and I believe your Agency actions may well be the un-settling of the West. I do not
approve of this RMP/EIS document, nor of the flawed information within, and, I assume
you know very well that I wouldn't. I hope you are not disappointed. I am.

With Great Concern,

that "degradation due to livestock grazing in Road Creek or Sheep Creek is the main reason why the salmon are nearly extinct in the Snake River system," as you claim.

36-11: You cite a portion of Attachment 6: IDFG/BLM/USFS Elk Policy Statement and Memorandum of Understanding (DRMP, p. 458); this Policy Statement is specific to elk and uses the term "wild ungulates." The BLM's observational data on resource conditions in elk and cattle exclosures in the Challis RA and other studies strongly indicate that wild ungulates (particularly elk) have little or no detrimental impact upon most areas of concern (e.g., riparian areas), as stated in the Policy Statement. In addition to the exclosure evidence, a formal study of elk and cattle range relations was conducted in response to perceived conflicts between elk and cattle on the Lee Creek Forest Service Allotment near Leadore, Idaho (Kelly and Merrill, 1995). The study found that nearly 90% of all graminoid forage removed across the allotment was attributed to cattle, while other herbivores (including elk) removed just over 10%. Both BLM and the Region 7 Office of the IDFG believe that this study, when reviewed in light of the exclosure data and observations, is generally reflective of use by elk and other wild herbivores (except wild horses) within the Challis RA.

36-12: Stubble height standards have been applied on some portions of the Resource Area since 1993. These standards have successfully reduced the impacts of livestock grazing to riparian and wetland habitats in many watersheds; specifically, Herd Creek, Lake Creek, Road Creek, Horse Basin Creek, and Bear Creek. Marked increases in hydric vegetation community composition and woody age structure and improved aquatic habitat condition and stream channel dynamics have been realized, even while significant levels of livestock grazing have been allowed.

36-13: The BLM disagrees with your assertion that areas are incapable of attaining the desired stubble heights. Data provided from protective cages distributed throughout the Resource Area, even on the harshest sites, indicate good growth potential, well beyond the indicated stubble standard. The BLM agrees there are some areas within the Resource Area that, due to reduced vigor, are not producing at their maximum potential. These areas are the exception and, it seems reasonable, should receive less grazing pressure.

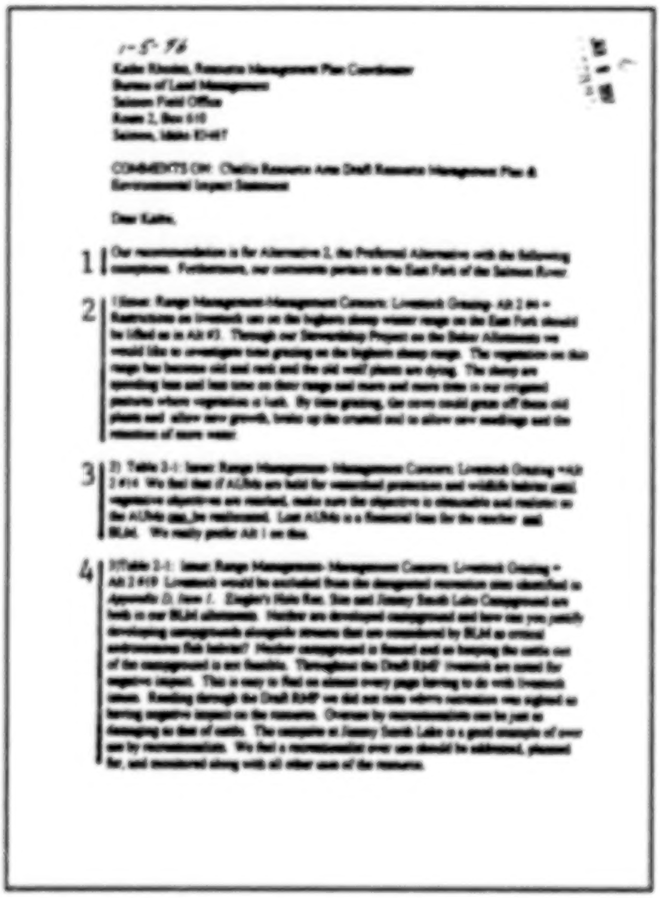
36-14: The BLM agrees that regrowth is likely on many riparian systems, which is why stubble height standards are modified for early season grazing (see Riparian Areas, Goal 1, #5c). The extent of regrowth is diminished as the season progresses and on less productive sites, which limits livestock grazing opportunities later in the summer

BLM Response to Letter No. 36 *continued*

or into the fall. The annual (or seasonal) monitoring process includes taking stubble height measurements prior to livestock grazing and late in the year, in order to analyze grazing by other ungulates and regrowth potentials.

36-15: Your concerns are noted.

Letter No. 37



BLM Response to Letter No. 37

37-1: Your preference for Alternative 2, with exceptions, is noted. The BLM's responses to the exceptions you recommend are stated in responses 37-2 through 37-12 below.

37-2: Please see response 25-2.

37-3: Please see response 25-4.

37-4: Please see response 25-5.

37-5: Please see response 25-3.

37-6: Please see response 25-6.

37-7: Your preference for Alternative 1 is noted. Please see response 16-7.

37-8: Your opinions are noted.

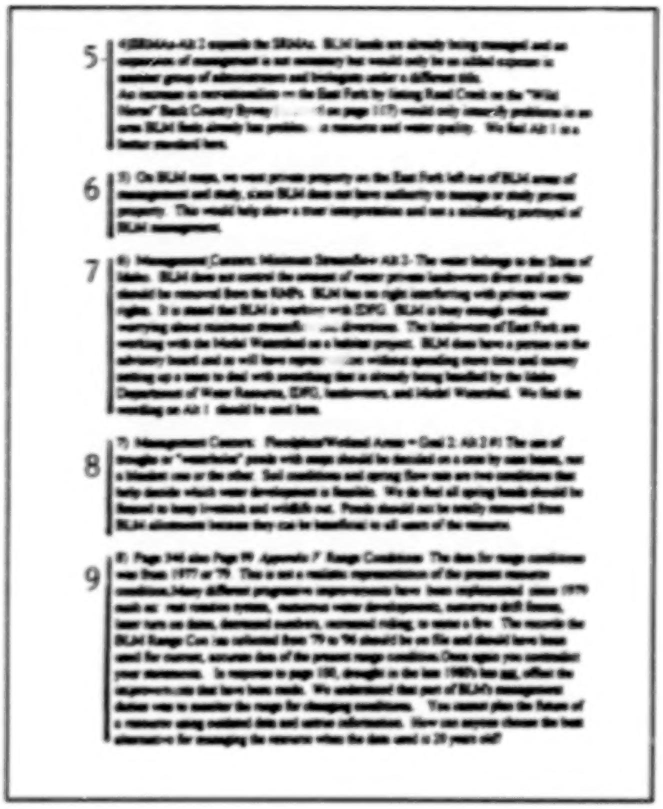
37-9: Please see response 25-9.

37-10: Please see response 25-10.

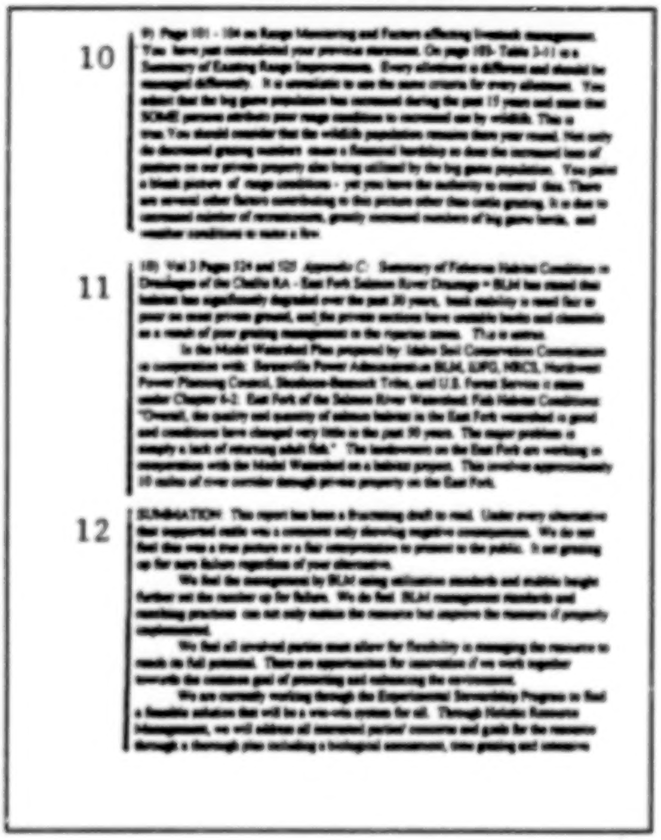
37-11: Please see response 25-11.

37-12: Please see response 25-12.

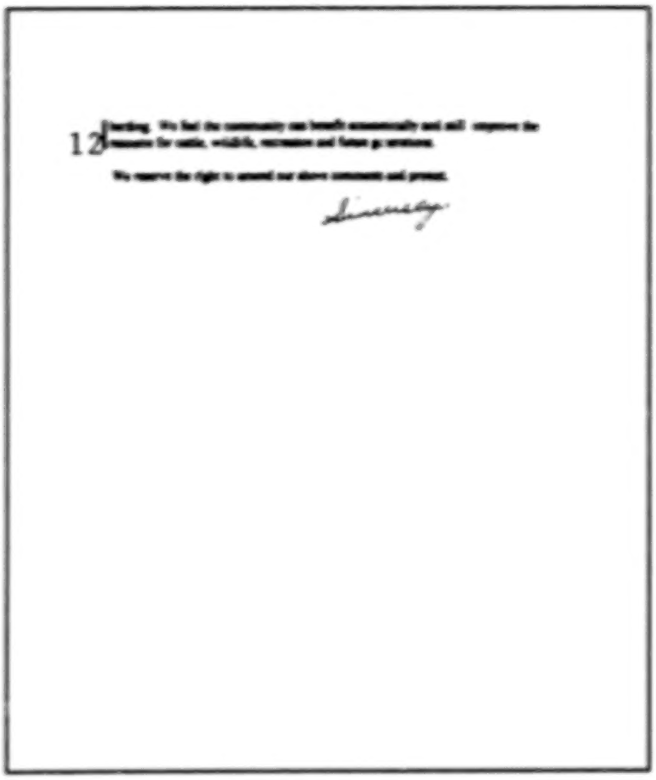
Letter No. 37 *continued*



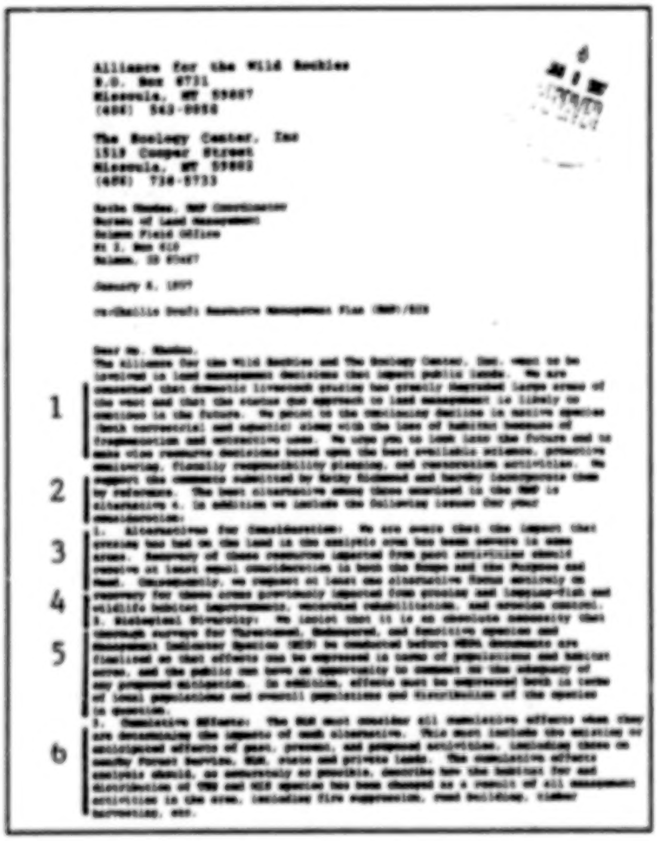
Letter No. 37 *continued*



Letter No. 37 *continued*



Letter No. 38



BLM Response to Letter No. 38

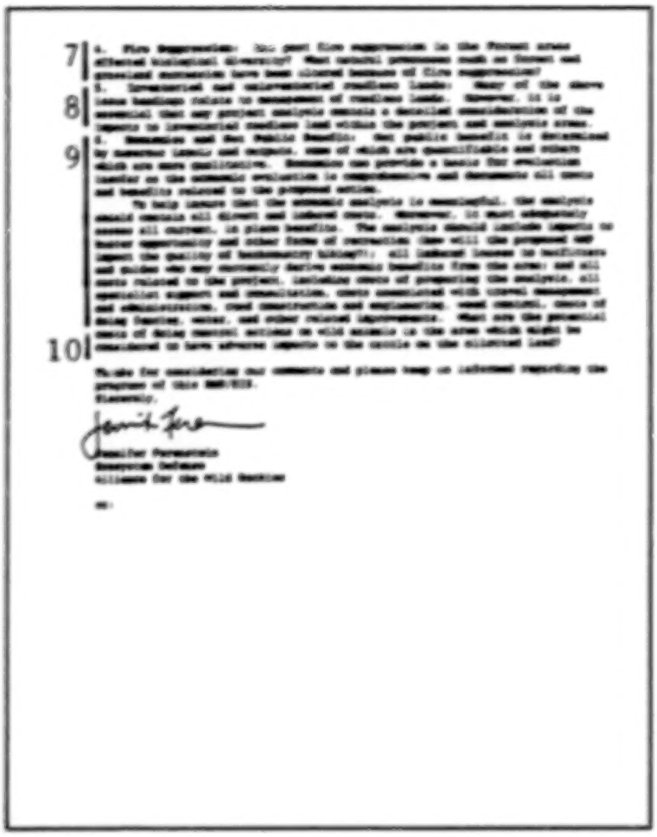
38-1: The Proposed RMP proposes actions to change livestock grazing management and improve range condition. The Proposed RMP also describes habitat management for native terrestrial and aquatic species (see PRMP: Biological Diversity; Fisheries; Special Status Species; and Wildlife Habitat).

38-2: Please see the responses to letter 14 (Kathy Richmond). Your preference of Alternative 4 is noted.

38-3: Concern about the impacts of actions - whether past, present, or future - is included in the Draft RMP's statement of Purpose and Need (DRMP, p. 13) which calls for a "land use plan consistent with multiple use and sustained yield objectives." The concept of sustained yield would inherently include restoring lands subjected to unacceptable resource damage, regardless of when the damage occurred.

38-4: All four "action" alternatives (Alternatives 1 through 5) developed in the Draft RMP would lead to resource recovery, although at different rates. The BLM did not believe it was necessary to develop another alternative which focuses on recovery of areas which were previously impacted by land use activities. PRMP goals and management decisions emphasize protection for and recovery of resources which have sustained resource

Letter No. 38 *continued*



BLM Response to Letter No. 38 *continued*

degradation or are at risk of being degraded, regardless of the cause of degradation. The PRMP proposes to manage livestock grazing and timber harvest activities in a manner which minimizes adverse resource impacts (see Livestock Grazing, Goals 1 and 2; and Forest Resources, Goal 1). The PRMP also contains actions to improve fisheries and wildlife habitats, rehabilitate watersheds, and control erosion.

38-5: The Proposed RMP would require an assessment of biological diversity and special status species during project and activity planning and preparation of relevant NEPA documentation (see PRMP: Biological Diversity, Goal 1, #1; and Special Status Species, Goal 2, #1). We have noted your suggestions about how those assessments should be conducted.

38-6: The Draft RMP includes a cumulative effects analysis, by alternative, for each resource analyzed (see DRMP, Chapter 4). The BLM's definition of cumulative impacts is similar to the definition you provide (see DRMP, Glossary: "Effects (impacts)", p. 569). The Proposed RMP would require a cumulative analysis of impacts to biodiversity components (including special status species, if appropriate) as part of project and activity planning (see PRMP, Biological Diversity, Goal 1, #1).

38-7: In forested areas, fire suppression activities may have adversely affected biological diversity on some sites. Sagebrush densities on grassland habitats are believed to have increased on some sites, which can reduce forage quantity and quality. In some forested areas, fire suppression may have suppressed growth rates, reduced nutrient cycling due to an increased woody debris layer; increased the build-up of ladder fuels; promoted overstocking and poor growth; increased the risk of insect/disease epidemics due to increased competition for soil nutrients, water, and light; altered species composition of stands; and increased the risk of catastrophic fire. (See Draft RMP, pp. 72-73.)

38-8: An analysis of impacts from proposed actions is and would continue to be standard operating procedure during project and activity planning and preparation of any relevant NEPA documentation.

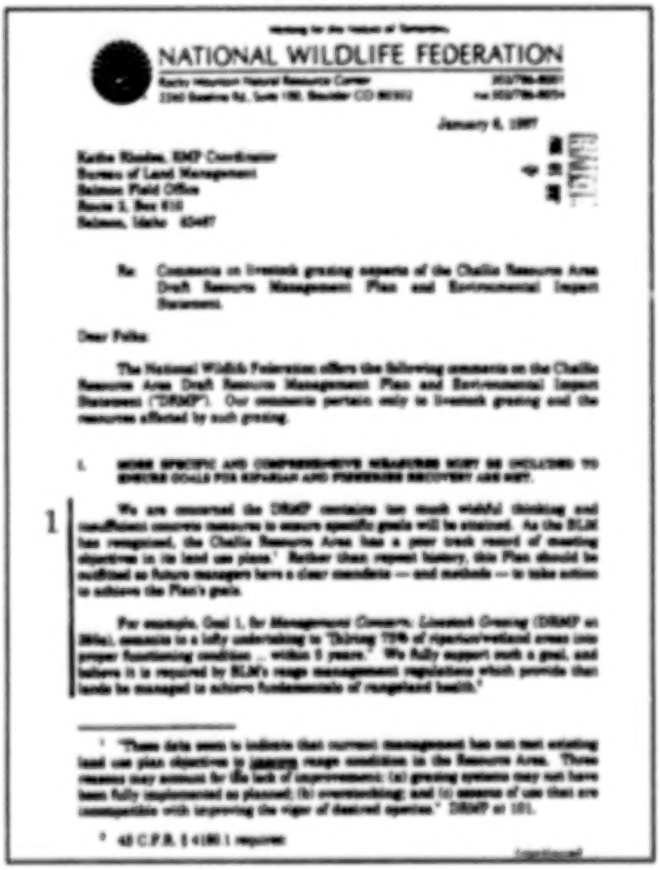
38-9: The methodology of the Custer-Lemhi Economic Model depicts direct, indirect, and induced effects. Aspects of the economic analysis which could not be quantified are described in qualitative terms (see DRMP, pp. 201-212). Please note that it is beyond the scope of an RMP analysis to calculate site-specific, project-level costs - a Resource Management Plan provides general management guidance and sets some priorities for project development; it does not describe or analyze all site-specific actions which may occur.

BLM Response to Letter No. 38 *continued*

The wildlife analysis of cumulative impacts (DRMP, p. 330, #44) describes expected impacts to big game population productivity and hunter opportunity. The recreation analysis describes impacts to dispersed, developed, motorized, and non-motorized recreation opportunities (see DRMP, pp. 257-266). The economic aspects of these recreation-related impacts are discussed in the DRMP on p. 208 (#5).

38-10: The PRMP proposes coordination with the Animal and Plant Health Inspection Service on matters concerning animal damage control, in accordance with the ADC annual cooperative agreement (see PRMP, Wildlife Habitat, Goal 2, #4). The PRMP does not define the number or type of ADC occurrences which would take place on public lands. Without some measure of predation, it is not possible to calculate the cost of doing control actions or the estimated loss of cattle on allotted lands.

Letter No. 40



NATIONAL WILDLIFE FEDERATION

January 6, 1997

Kathe Hinden, RMP Coordinator
Bureau of Land Management
Salmon Field Office
Route 2, Box 610
Salmon, Idaho 83467

Re: Comments on livestock grazing aspects of the Challis Resource Area Draft Resource Management Plan and Environmental Impact Statement.

Dear Folks:

The National Wildlife Federation offers the following comments on the Challis Resource Area Draft Resource Management Plan and Environmental Impact Statement ("DRMP"). Our comments pertain only to livestock grazing and the resources affected by such grazing.

I. MORE SPECIFIC AND COMPREHENSIVE MEASURES MUST BE INCLUDED TO ENSURE GOALS FOR RIPARIAN AND FISHERIES RECOVERY ARE MET.

1 We are concerned the DRMP contains too much wishful thinking and insufficient concrete measures to ensure specific goals will be attained. As the BLM has recognized, the Challis Resource Area has a poor track record of meeting objectives in its land use plans.[1] Rather than repeat history, this Plan should be modified so future managers have a clear mandate — and methods — to take action to achieve the Plan's goals.

For example, Goal 1, for *Management Concern: Livestock Grazing* (DRMP at [illegible]), commits to a lofty undertaking to "bring 75% of riparian/wetland areas into proper functioning condition ... within 5 years." We fully support such a goal, and believe it is required by BLM's range management regulations which provide that lands be managed to achieve fundamentals of rangeland health.[2]

---

[1] "These data seem to indicate that current management has not met existing land use plan objectives to improve range condition in the Resource Area. Three reasons may account for the lack of improvement: (a) grazing systems may not have been fully implemented as planned; (b) overstocking; and (c) seasons of use that are incompatible with improving the vigor of desired species." DRMP at 101.

[2] 43 C.F.R. § 4180.1 requires

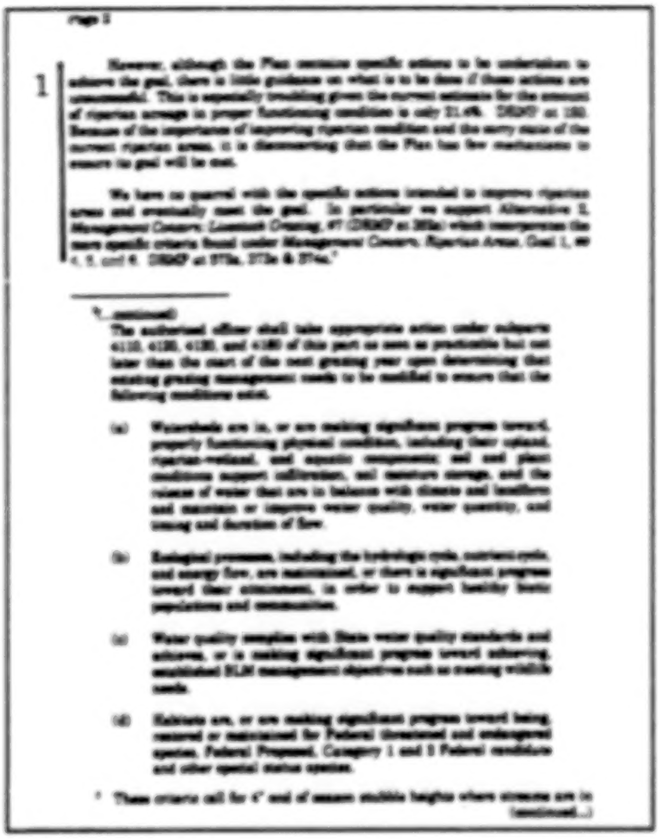
(continued)

BLM Response to Letter No. 40

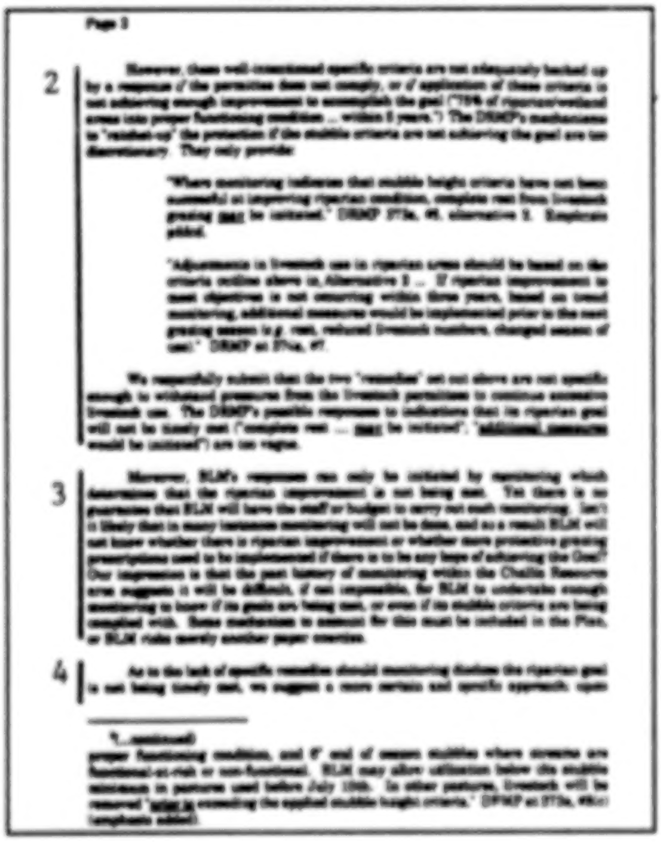
40-1: The PRMP provides future managers with specific goals and specific methods for achieving those goals. The BLM believes the grazing management proposed in the PRMP will be effective at addressing resource concerns, because similar livestock grazing management has been implemented on portions of the Challis Resource Area since 1993, with noticeable improvement in resource conditions (see response 15-5). Whether the BLM can fully meet the goals described in the Challis RMP will depend on future budgets, funding levels, staffing, etc. If RMP decisions are found to be ineffective in achieving the stated goals, the RMP can be modified in accordance with 43 CFR 1610.5-4 through 1610.5-6.

40-2: The Draft RMP decisions you are concerned about (DRMP, p. 373, #5 and p. 374, #7) have been revised in the PRMP (see Livestock Grazing, Goal 1, #5 and 7). Actions to address permittee non-compliance are specified at the activity plan level (e.g., Allotment Management Plans). The RMP's wording is general on purpose, to give future land managers the flexibility to choose the best possible options for livestock management in a given allotment, under given circumstances. The Challis Resource Area's treatment of this issue is consistent with the new grazing regulations (see 43 CFR 4110.3-3, 4130.3-3 and subpart 4180, August 21, 1995). The regulations indicate the BLM must take action, but no specific course of action is

Letter No. 40 *continued*



Letter No. 40 *continued*



BLM Response to Letter No. 40 *continued*

dictated.

40-3: Monitoring can be detailed quantitative data or simply photos or field observations (see 43 CFR 4110.3-2). Some decisions in the PRMP are "triggers" that allow the BLM to take action without an end-of-year analysis of monitoring (e.g., Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #5 and 6). All but four allotments currently have monitoring in place. The BLM prioritizes field activities in critical areas, since it is not possible to actively monitor every area of every allotment every year.

40-4: Your suggested remedies if riparian goals (or annual standards) are not being met have been noted. The PRMP provides general management direction for circumstances when goals are not being achieved (for example, see Riparian Areas, Goal 1, #7). However, specific management strategies and remedies for grazing management to meet riparian habitat goals, objectives or standards in a pasture or allotment are to be defined through the interdisciplinary team process (see PRMP, Fisheries, Goal 1, #4).

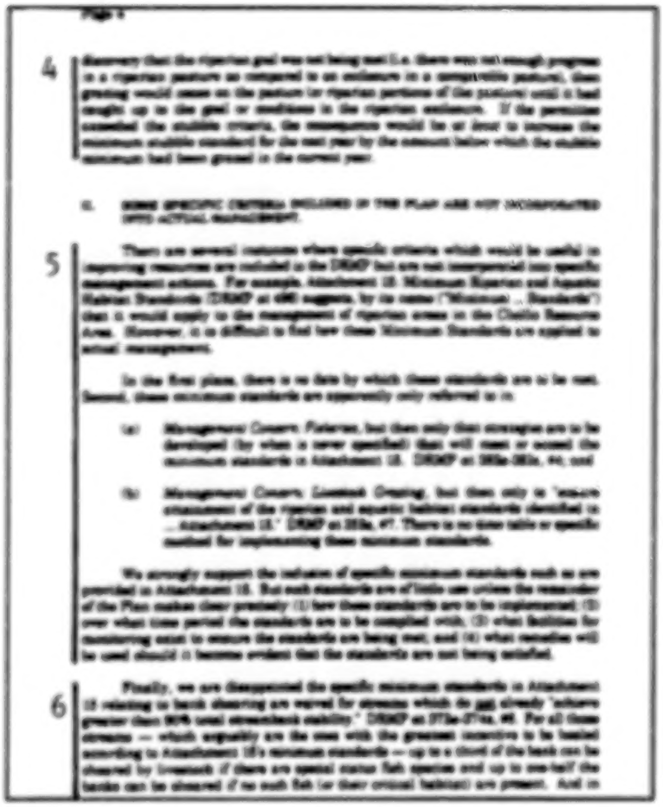
40-5: Attachment 15 has been re-written in the PRMP to (a) clarify that the Attachment does not contain standards to be achieved, but rather lists the minimum aquatic and riparian habitat conditions needed to ensure good aquatic habitat for resident and anadromous fish, and (b) describe the means through which these minimum habitat conditions can be modified. Numerous management decisions were also revised in the PRMP to better clarify when progress toward these minimum habitat conditions must be ensured.

The BLM's responses to your itemized comments #1 through 4 are as follows:

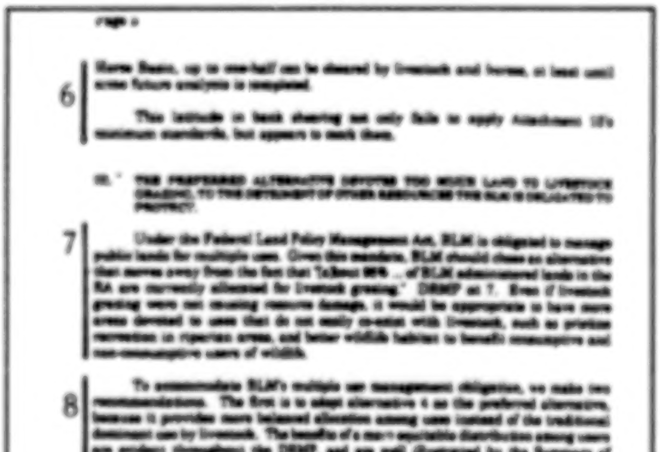
(1) As stated in the PRMP, Fisheries, Goal 1, #4b, strategies to meet or exceed these minimum aquatic and riparian habitat conditions would be developed through the ID team process. These strategies may vary on a watershed or more site-specific basis, depending on site capability, resource conflicts and the like. For this reason, the PRMP does not address implementation strategies specifically. The PRMP does, however, specify in many decisions that progress toward these habitat conditions must be made (see, for example: Livestock Grazing, Goal 1, #8, 9, and 11; Minerals, Goal 1, #6, Goal 2, #6, and Goal 3 #5; Transportation, Goal 1, #9; and Wild Horses and Burros, Goal 1, #7).

(2) These habitat conditions are intended to be the desired minimum habitat conditions for the life of the Challis RMP, unless modified according to the procedure described in Attachment 15. Timelines for attaining

Letter No. 40 *continued*



Letter No. 40 *continued*



BLM Response to Letter No. 40 *continued*

these habitat conditions were purposely omitted from the PRMP. Timelines and site-specific strategies for meeting the habitat conditions will be identified when objectives are developed through the ID team process (see PRMP, Fisheries, Goal 1, #4b). PRMP decisions which refer to Attachment 15 either state that progress toward these habitat conditions must be ensured (i.e., the resource condition trend should be upward) or that the proposed activity cannot hinder progress toward these conditions (i.e., no resource degradation can occur).

(3) The BLM has established procedures for aquatic habitat monitoring which follow the Region 1/Region 4 Fish Habitat Standard Inventory Procedures (Overton, et. al. 1997). This monitoring is not an annual exercise, but is rather designed for a 3 to 5 year cycle to determine if management actions are effective in reaching the established site-specific aquatic habitat objectives.

(4) Response #40-2 above describes remedies if annual (or seasonal) grazing standards are not being met for grazing actions. If aquatic and riparian habitat monitoring reveal that grazing management actions are not ensuring progress toward riparian and aquatic habitat conditions, grazing management will be modified.

40-6: Management Concern: Riparian Areas, Goal 1, #6 has been re-written in the PRMP to ensure more rapid progress toward attaining proper functioning riparian condition, including stable streambanks.

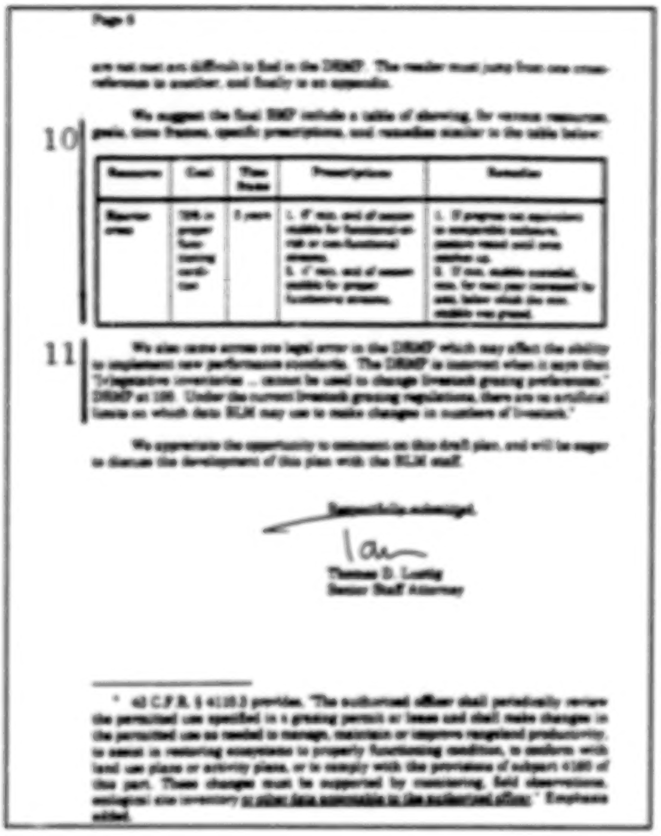
40-7: The BLM believes that the PRMP's allocations for livestock grazing are consistent with FLPMA's multiple use mandates. Many other multiple use allocations for the Challis Resource Area are also widespread (e.g. off-highway vehicle use on existing roads, vehicle ways or trails; dispersed and developed recreation opportunities; wildlife hunting and viewing opportunities; and areas open to mineral development).

40-8: Your preference of Alternative 4 is noted.

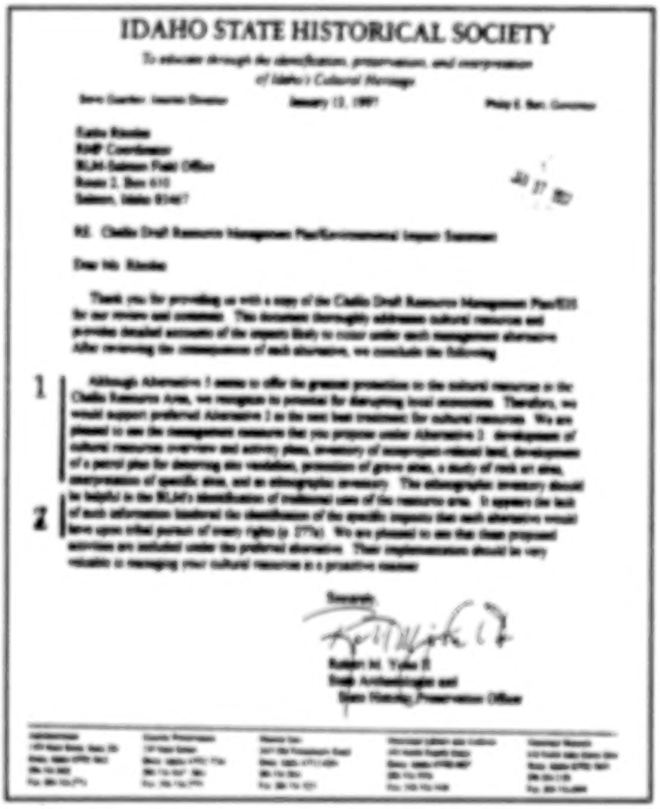
40-9: Although suitability analysis is an acceptable procedure, it is not specifically described in any BLM reference documents. Utilization pattern mapping is the Challis Resource Area's preferred method of identifying areas physically suitable for livestock grazing.

Livestock have been excluded from some locations in the Challis RA to address resource concerns (see PRMP, Livestock Grazing, Goal 1, #2, 17, and 18). In areas open to grazing, livestock grazing is restricted by the seasons of use and grazing systems described in activity plans such as Allotment Management Plans and Herd Management Plans, and by PRMP decisions such as Livestock Grazing, Goal 1, #7; Riparian Areas, Goal 1,

Letter No. 40 *continued*



Letter No. 41



IDAHO STATE HISTORICAL SOCIETY

BLM Response to Letter No. 40 *continued*

#5, 6, and 7; and Wildlife Habitat, Goal 2, #6.

Performing an in-depth analysis of use conflicts in the Challis Resource Area would become a never-ending circle of frustration, because an allocation that may constitute a "use conflict" to one user may not be seen as a use conflict by another user. In the PRMP the BLM decided to accommodate multiple use throughout the Resource Area, rather than segregate single uses to separate "pieces of the pie." The PRMP contains what the BLM considers to be the best possible balance of resource and land use allocations; this conclusion is based on an assessment of resource conditions, needs, and opportunities as well as a consideration of public demands.

40-10: Your suggestion is noted. The level of detail in your suggested table is inappropriate in a RMP; however, a table such as this may have merit at the activity plan level.

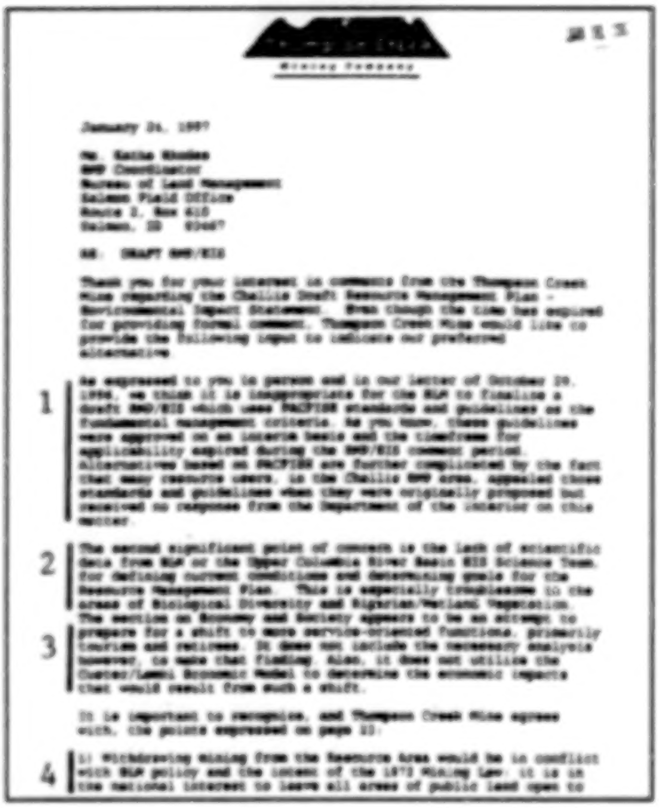
40-11: This error has been corrected in the PRMP/FEIS.

BLM Response to Letter No. 41

41-1: Your preference of alternatives is noted. The cultural resources management described in Alternative 2 has been carried forward to the Proposed RMP.

41-2: Thank you for your comments.

Letter No. 42



Thompson Creek Mining Company

January 24, 1997

Ms. Kathe Rhodes
RMP Coordinator
Bureau of Land Management
Salmon Field Office
Route 2, Box 610
Salmon, ID 83467

RE: DRAFT RMP/EIS

Thank you for your interest in comments from the Thompson Creek Mine regarding the Challis Draft Resource Management Plan - Environmental Impact Statement. Even though the time has expired for providing formal comment, Thompson Creek Mine would like to provide the following input to indicate our preferred alternative.

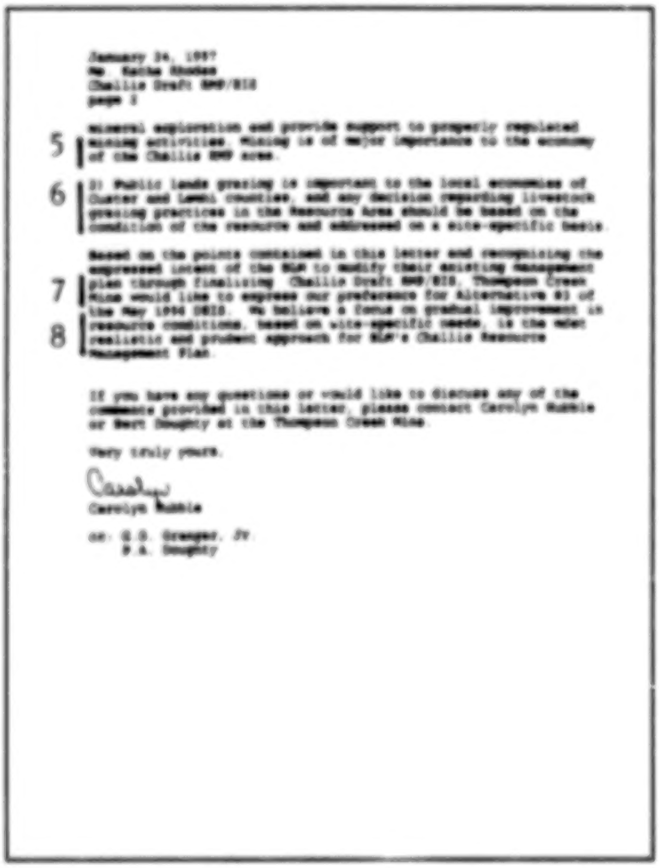
1 As expressed to you in person and in our letter of October 29, 1996, we think it is inappropriate for the BLM to finalize a draft RMP/EIS which uses PACFISH standards and guidelines as the fundamental management criteria. As you know, these guidelines were approved on an interim basis and the timeframe for applicability expired during the RMP/EIS comment period. Alternatives based on PACFISH are further complicated by the fact that many resource users, in the Challis RMP area, appealed these standards and guidelines when they were originally proposed but received no response from the Department of the Interior on this matter.

2 The second significant point of concern is the lack of scientific data from BLM or the Upper Columbia River Basin EIS Science Team, for defining current conditions and determining goals for the Resource Management Plan. This is especially troublesome in the areas of Biological Diversity and Riparian/Wetland Vegetation.
3 The section on Economy and Society appears to be an attempt to prepare for a shift to more service-oriented functions, primarily tourism and retirees. It does not include the necessary analysis however, to make that finding. Also, it does not utilize the Custer/Lemhi Economic Model to determine the economic impacts that would result from such a shift.

It is important to recognize, and Thompson Creek Mine agrees with, the points expressed on page 22:

4 1) Withdrawing mining from the Resource Area would be in conflict with BLM policy and the intent of the 1872 Mining Law. It is in the national interest to leave all areas of public land open to

Letter No. 42 *continued*



January 24, 1997
Ms. Kathe Rhodes
Challis Draft RMP/EIS
page 2

5 mineral exploration and provide support to properly regulated mining activities. Mining is of major importance to the economy of the Challis RMP area.

6 2) Public lands grazing is important to the local economies of Custer and Lemhi counties, and any decision regarding livestock grazing practices in the Resource Area should be based on the condition of the resource and addressed on a site-specific basis.

7 Based on the points contained in this letter and recognizing the expressed intent of the BLM to modify their existing management plan through finalizing Challis Draft RMP/EIS, Thompson Creek Mine would like to express our preference for Alternative #3 of the May 1996 DEIS.
8 We believe a focus on gradual improvement in resource conditions, based on site-specific needs, is the most realistic and prudent approach for BLM's Challis Resource Management Plan.

If you have any questions or would like to discuss any of the comments provided in this letter, please contact Carolyn [illegible] or Bert Doughty at the Thompson Creek Mine.

Very truly yours,

Carolyn
Carolyn [illegible]

cc: [illegible], Jr.
B.A. Doughty

BLM Response to Letter No. 42

42-1: Your comments are noted. The BLM recognizes that "PACFISH" is an interim management strategy (which is still in effect as of publication of the PRMP/FEIS). The various standards and management decisions contained in the PRMP were selected because they are expected to achieve the desired resource improvement and maintenance goals for the Challis Resource Area, including goals for riparian and aquatic habitats.

42-2: The Challis Draft RMP/EIS does not include information from the Upper Columbia River Basin (UCRB) science assessment because that information was published after the Draft RMP was at the printer for publication. The PRMP/FEIS does incorporate information from the UCRB science assessment, as appropriate.

The BLM disagrees with your statement about the lack of scientific data. The Draft RMP cited over 250 references, approximately 80-85% of which were technical scientific journals. These references were used by the interdisciplinary team in the development of the RMP alternatives, description of the affected environment, and analysis of environmental consequences. The content of the Challis Draft RMP/EIS was also based on the professional judgment of resource specialists, and extensive internal BLM review. The PRMP/FEIS updates and expands scientific information about the Challis RA.

The resource goals stated in the PRMP were primarily derived from existing laws, regulations, Department directives, Bureau policy, and national initiatives. The goals for management of Riparian/Wetland Areas and Biological Diversity are consistent with current law, regulation, and policy, including the 1997 Idaho Standards for Rangeland Health.

42-3: The affected environment description of the Lemhi-Custer counties economy (see DRMP, Chapter 3, pp. 63-70) describes trends in employment and income/earnings during the past 20-25 years; increases in the service sector of the economy and in-migration of retirees are events which occurred prior to RMP development. These trends were summarized from the social, fiscal, and economic study of Lemhi and Custer counties which was completed by University of Idaho researchers under contract by the BLM, USFS, Custer County, and Lemhi County. This study was cited as the primary source of information for the Affected Environment discussion of the local economy (see DRMP, p. 63).

Expected impacts to "tourism" from RMP actions are described in the Draft RMP. The analysis of recreation impacts states that the RMP's impact on regional increases in tourism would not be significant (see DRMP, p. 257, #2). A qualitative discussion of impacts is

BLM Responses to Letter No. 42 *continued*

presented on p. 208 (#5); the economic model was not used to prepare this portion of the economic analysis, because recreation-related impacts could not be quantified.

42-4: Your comments are noted.

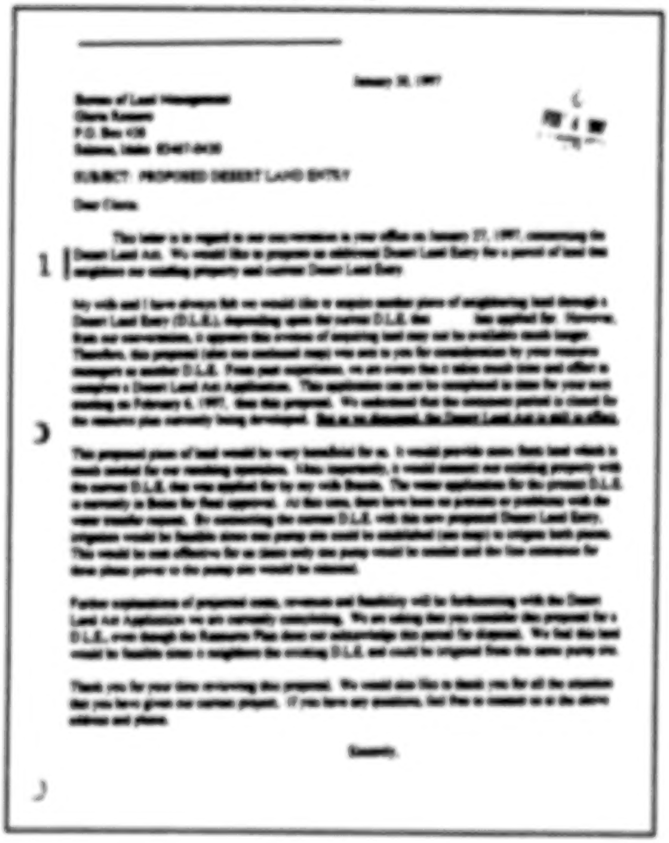
42-5: The importance of mining to the local economy was discussed in the DRMP (see Chapter 3 - Economy and Society and Appendix B).

42-6: Your opinions are noted.

42-7: Your preference for Alternative 3 is noted.

42-8: Your opinion is noted.

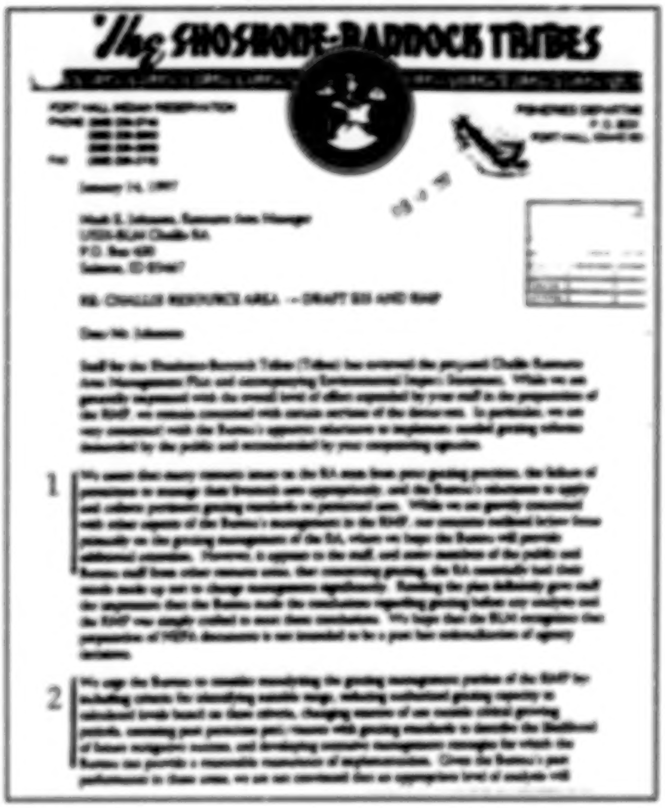
Letter No. 43



BLM Response to Letter No. 43

43-1: The public lands you asked the BLM to make available for desert land entry (T14N, R19E, Section 25, $S^{1/2}$ $S^{1/2}$ $NE^{1/4}$ and $SE^{1/4}$ $SE^{1/4}$ $NW^{1/4}$, approximately 50 acres) have been added to the Proposed RMP as an adjustment area on Map A: Adjustment/Management Areas. This would make them available for consideration for disposal through exchange or desert land entry.

Letter No. 44



Letter No. 44 *continued*

BLM Response to Letter No. 44

44-1: Your comments and concerns are noted.

44-2: (a) The PRMP would provide for identification of suitable range through Utilization Pattern Mapping Methodology (UPM) and Ecological Site Inventory (ESI) surveys, which are approved as part of Idaho BLM's Minimum Monitoring Standards. UPM and ESI would be used in lieu of suitability analysis to adjust livestock stocking levels to the carrying capacity of the land (see PRMP, Livestock Grazing, Goal 1, #2 and 6). The PRMP contains upland utilization and riparian stubble-height criteria (Livestock Grazing, Goal 1, #7; and Riparian Areas, Goal 1, #4, 5, and 7) which would also influence livestock distribution and use of suitable range on most allotments.

(b) The PRMP identifies forage utilization criteria that are based on season of use (Livestock Grazing, Goal 1, #7). These utilization criteria would limit livestock use during the critical growth period.

(c) The BLM believes that attempting to "describe the likelihood of future mitigative success" by "assessing past permittee performance with grazing standards" would not be a sound basis for future management decisions. Human attitudes, perceptions, and responses to land use planning and direction are subject to frequent change based on education, experience, and changing values. The BLM's approach to ensure permittee compliance with AMPs and permit terms and conditions would be in accordance with the BLM grazing regulations (see 43 CFR 4110.3-3, 4130.3-3 and Subpart 4180, August 21, 1995).

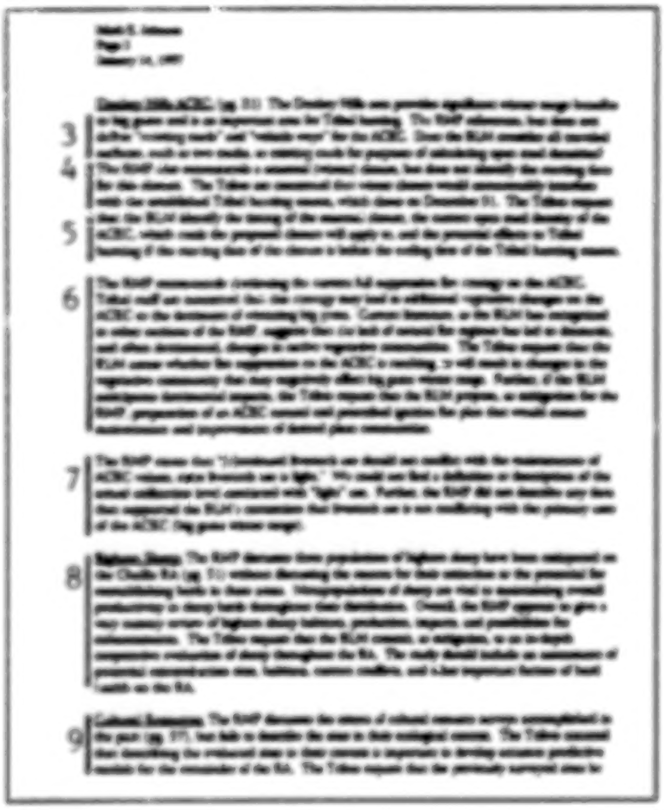
(d) The BLM believes the PRMP describes a method of developing future grazing management strategies (e.g., see Livestock Grazing, Goal 1, #4) which can be implemented and would be effective (see response 15-5). Many grazing management strategies would be implemented upon signing of the Record of Decision for the approved RMP (e.g., Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #4-7.) Please also see response 44-20.

44-3: A definition of "existing roads, vehicle ways, and trails" has been added to the Glossary for the PRMP/FEIS. The Draft RMP provided definitions for the terms "road," vehicle way," and "trail." These definitions have been included in the PRMP.

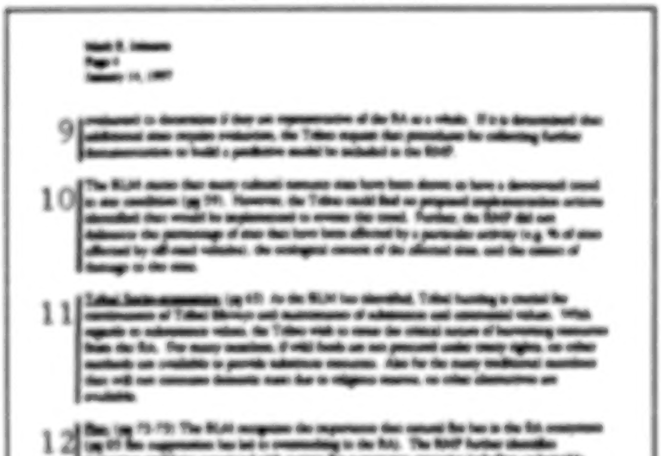
For the purposes of calculating road densities, as in response 44-5 below, the Challis BLM uses all roads and vehicle ways shown on USGS 7.5 minute topographic quadrangle maps.

44-4: As requested by the Tribes during consultation meetings

Letter No. 44 *continued*



Letter No. 44 *continued*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BLM Response to Letter No. 44 *continued*

with the BLM, the Draft RMP (Alternative 2) and the PRMP propose a winter limitation on the use of motorized vehicles in the Donkey Hills ACEC between 12/16 and 4/30 (see PRMP, Off-highway Vehicle Use, Goal 1, #4). This seasonal limitation on motorized vehicle use is designed to limit human disturbance on the winter range and reduce stress and associated adverse effects on big game populations.

44-5: Dates of the seasonal limitation on motorized vehicle use are 12/16-4/30. During the remainder of the year, motorized vehicle use would be limited to existing roads and vehicle ways. Current road densities are low in the Donkey Hills ACEC area (0.66 miles of roads and/or vehicle ways per square mile of area). This seasonal limitation on the use of motorized vehicles would apply to the area delineated as the Donkey Hills ACEC (see PRMP, Map 8). Potential effects on the Tribal hunting season are expected to be minimal. No conflicts between the existing winter closure (12/15-4/15) and Tribal hunting have been documented or reported to BLM during the last 10 years. The BLM believes this seasonal closure would benefit future tribal hunting opportunity by helping to ensure a viable elk population remains in the Donkey Hills area.

44-6: The decision to require full suppression of wildfires on the Donkey Hills winter range was intended to ensure that the winter forage supply (both herbaceous forage and mountain mahogany browse) is not destroyed by a catastrophic fire event. This decision would not preclude the use of prescribed fire or prescribed natural fires to improve big game habitat. Preparation of activity plans for management of ACECs (see PRMP, ACECs, Goal 1, "Management Decisions Common to All ACECs" #4) and preparation of fire management activity plans (see PRMP, Fire Management, Goal 1, #2 and 7) would provide for development of future decisions relating to the use of prescribed fire and prescribed natural fire in the ACEC.

44-7: The phrase "livestock use is light" was used in reference to the Big Butte Resource Area's portion of the proposed Donkey Hills ACEC (see Map 8). The term "light" generally means forage utilization levels of 20% or less. Livestock use within the Big Butte Resource Area portion of the ACEC is limited by distance from water sources and steepness of slopes.

44-8: The information on the three small sheep populations came from the 1979 Challis Unit Resource Analysis. The information was based on historical discussions and interviews with private individuals, National Forest employees, and IDFG personnel. The PRMP does not preclude any type of cooperative wildlife study in the Challis RA, nor would a land use plan decision be

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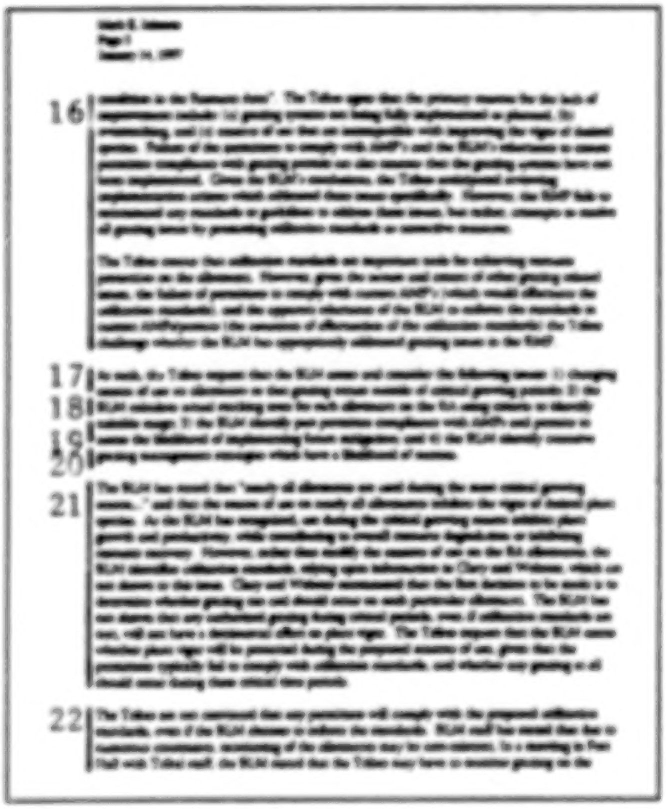

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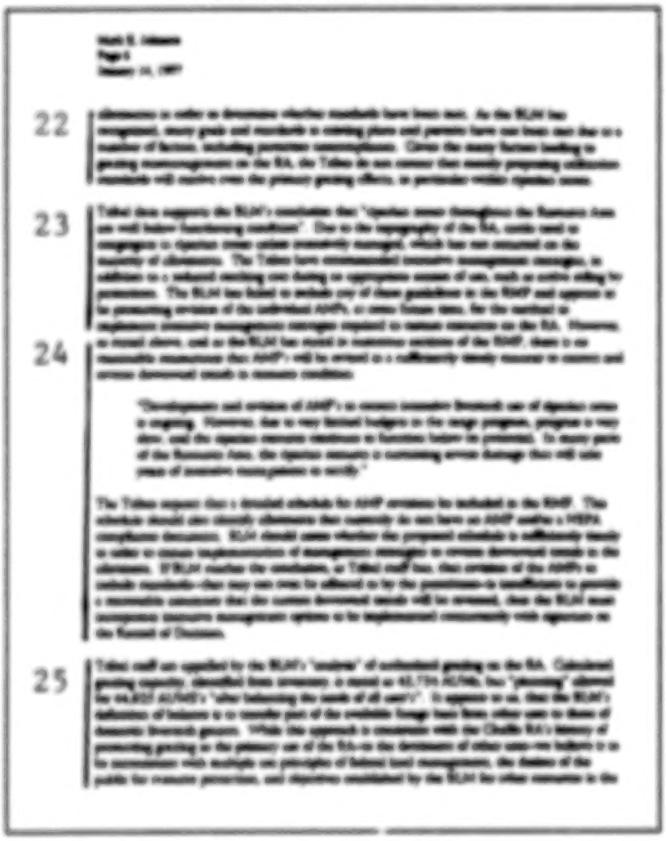

BLM Response to Letter No. 44 *continued*

necessary to implement or begin a cooperative study. The PRMP would manage bighorn sheep as a priority resource on several bighorn sheep habitat areas (e.g., see PRMP, Wildlife Habitat, Goal 1, #6 and Goal 2, #9f), and provides for reintroduction of bighorn sheep in unoccupied habitats (see PRMP, Wildlife Habitat, Goal 4).

44-9: The PRMP would provide the necessary steps for describing sites in their ecological context; this data could be used to produce a predictive model, if needed, in the future (see Cultural Resources, Goal 1, #1-4, 10, and 13, and Goal 3, #1 and 2.

44-10: The PRMP contains management to help reverse the downward trend in cultural resources site condition (e.g., see PRMP, Cultural Resources, Goal 1, #3, 5, 6, 8, 9, 11, 12, 13, and 14). Many of the sites recorded within the Resource Area do not have information on the type and degree of impacts, and therefore this information was not included in the discussion of the Affected Environment.

44-11: Actions in the PRMP seek to enhance the Tribes' opportunities to hunt, fish, and gather natural resources in the Challis Resource Area (see PRMP, Tribal Treaty Rights and Chapter 4 - Tribal Treaty Rights).

44-12: The PRMP proposes the preparation of fire management activity plans that would provide for the use of prescribed natural fires and prescribed burning (see PRMP, Fire Management, Goal 1, #2 and 7).

44-13: The statement on page 75 of the DRMP concerning population status and trend of resident salmonid populations is a generalization based on data obtained from the Idaho Department of Fish and Game, and other Federal, State and local agencies. Since bull trout are listed as "threatened" under the ESA and westslope cutthroat trout are a state sensitive species, it stands to reason that the populations of these two species would be either stable or in a downward trend. The BLM has collected some basic presence/absence data for most of the streams in the Resource Area (see PRMP, Appendix C, Item 1); however, population status and trends are unknown. The BLM manages fisheries habitat, so inventory and monitoring studies and other PRMP actions focus primarily on aquatic habitat, not fish populations.

44-14: A discussion of factors limiting the habitat and production of resident and anadromous fish was presented in the DRMP on pages 76-77. The PRMP contains numerous upland, riparian, and aquatic habitat management decisions which are intended to benefit fisheries resources. The impacts of these PRMP decisions on fisheries are described in the PRMP in Chapter 4 - Fisheries. Since the BLM manages fisheries

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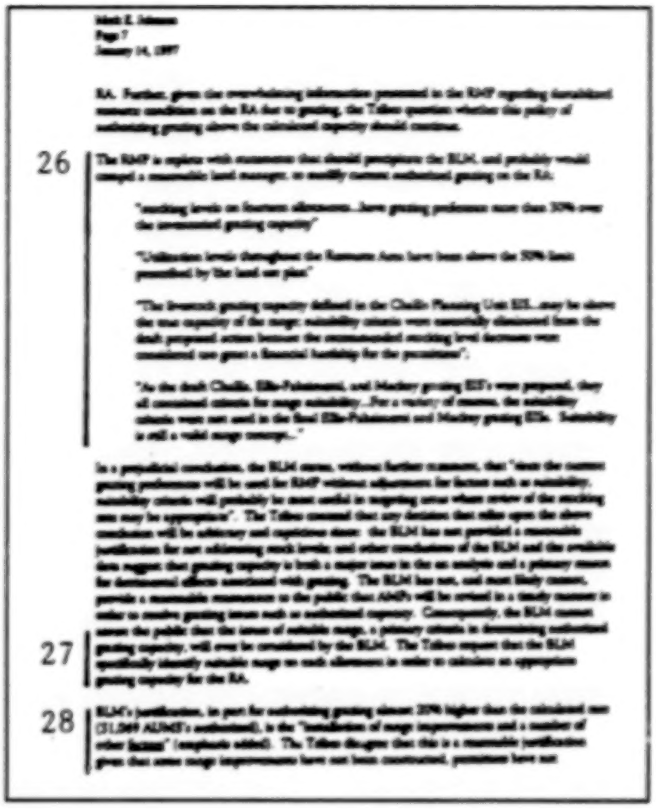

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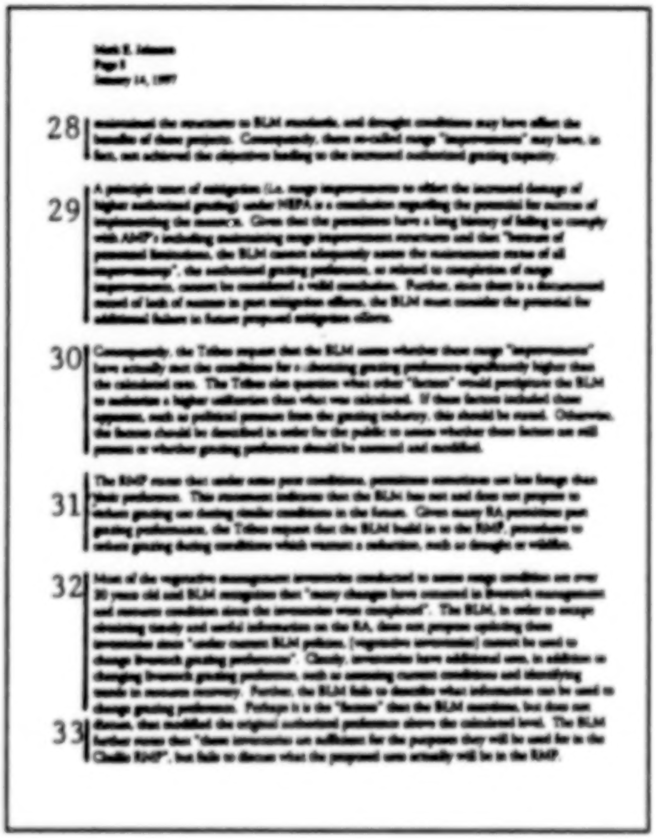
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BLM Response to Letter No. 44 *continued*

habitat, not fisheries populations, impacts are generally discussed in terms of fisheries and aquatic habitat.

44-15: The PRMP proposes measures to resolve cases of land trespass (see Land Tenure and Access, Goal 4, #1). The time required for resolution of each trespass case would vary, depending on the circumstances of the case, available funding, other management priorities, and availability of personnel. An implementation schedule for resolution of trespass cases would be part of the RMP implementation plan to be developed following signature of the Record of Decision for the approved RMP.

44-16: Your comments and concerns are noted. Please see response 44-2(c).

44-17: The PRMP identifies forage utilization criteria that are based on season of use (see PRMP, Livestock Grazing, Goal 1, #7). These utilization criteria would limit livestock use during the critical growth period. The BLM believes that livestock grazing use can be sustained on key forage species during critical growing periods, provided that the use is managed and controlled through the use of utilization standards and other knowledgeable and reasonable practices.

44-18: Please see response 44-2(a).

44-19: Please see response 44-2(c).

44-20: Intensive grazing management strategies which have a likelihood of success would be determined at the activity planning level (i.e., during the development of allotment management plans or integrated resource activity plans). Intensive management strategies would vary significantly from allotment to allotment and even pasture to pasture due to topography, location of fences and water developments, and resource values. For example, grazing management strategies that might be implemented include deferred-rotation grazing systems, high intensity-short duration grazing systems, rest-rotation grazing systems, and frequent herd movements by riders. Other examples of intensive grazing strategies can be found in BLM Technical Reference 1737-6, Management Techniques in Riparian Zones; and Technical Reference 1734-7, Grazing Management in Riparian Areas. Prescribing site-specific grazing strategies on an allotment by allotment basis is not the purpose of the RMP. The PRMP does prescribe resource use criteria for livestock management (for example, Livestock Grazing, Goal 1, #6; and Riparian Areas, Goal 1, #4-6). Intensive management strategies developed to manage livestock grazing and improve resource conditions would be designed to help livestock managers meet these resource use criteria. The BLM is confident that implementation of the resource use criteria identified in the PRMP would

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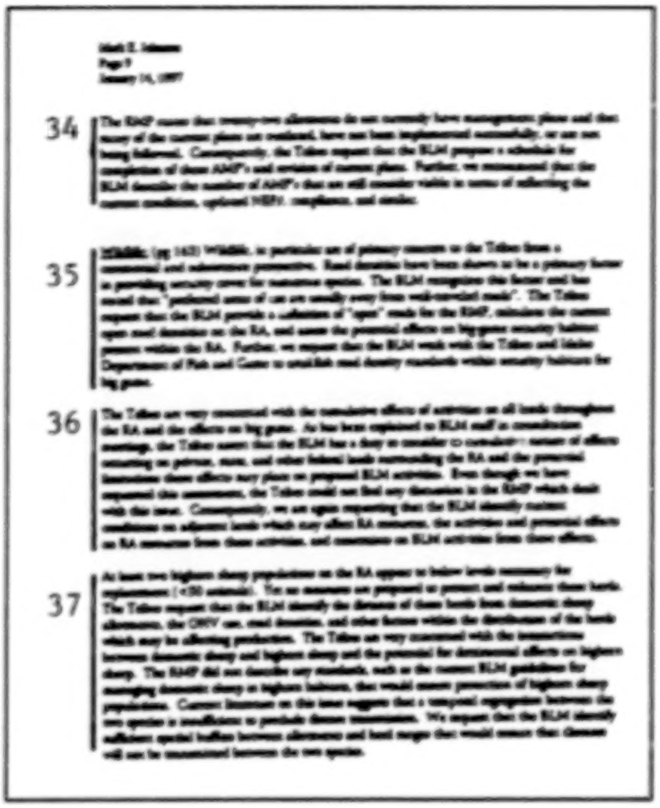

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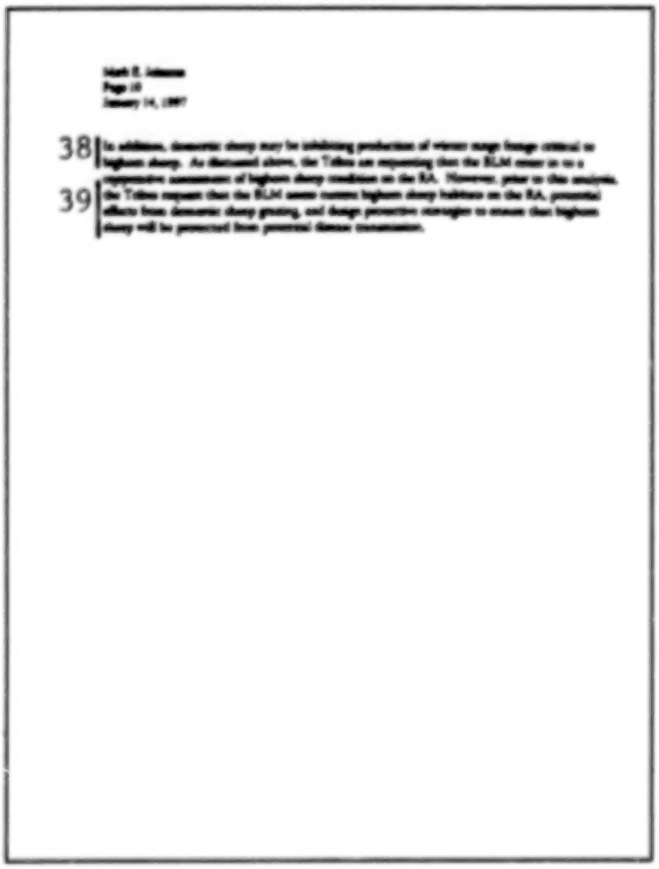

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result in resource improvement (see response 15-5).

44-21: The PRMP would prescribe utilization criteria, herbaceous riparian stubble-height criteria, and to maintain plant vigor (see PRMP, Livestock Grazing, Goal 1, #7 and Riparian Areas, Goal 1, #4 and 5). These actions would have positive effects on plant vigor (see PRMP, Chapter 4 - Vegetation, #4, and 27).

44-22: Your concerns are noted. Permittee compliance with the resource use criteria outlined in the PRMP would be monitored by the BLM. The BLM believes that the upland utilization and riparian stubble-height criteria and other management actions outlined in the PRMP would result in substantial resource improvement (see response 15-5). Please also see response 44-2(c).

44-23: Please see responses 44-20 and 44-2(a). With regard to livestock stocking rates, the PRMP provides for stocking level adjustments based on the results of monitoring and ecological site inventories (see PRMP, Livestock Grazing, Goal 1, #2 and 6).

44-24: The PRMP establishes priorities for revision of existing AMPs (see Livestock Grazing, Goal 1, #4). The PRMP also identifies priorities for establishing stocking rates on specific allotments (Livestock Grazing, Goal 1, #2). Revision of AMPs is expected to be done concurrently with establishment of stocking rates. The PRMP is not intended to establish the specific schedule for implementation. That schedule would be developed immediately following approval of the RMP and signature of the Record of Decision. The implementation plan would address the first five years following approval of the RMP, and would be modified and adjusted in response to such things as actions completed, effectiveness of actions in achieving RMP objectives, or changes in staffing and budget priorities. Examples of "intensive management options" that would be implemented upon signing of the Record of Decision (and would not be dependent on an AMP revision schedule) include upland utilization and stubble height criteria (see PRMP, Livestock Grazing, Goal 1, #7; and Riparian Areas, Goal 1, #5-6). Other allotment-specific intensive management strategies would be implemented when the AMPs or other activity plans are developed. The BLM believes these actions would provide reasonable assurance of resource improvement.

44-25: Your comments apparently refer to the forage allocation discussion on page 99 of the DRMP. This section simply discusses what has happened in the past, and is not a decision that "transfers forage to livestock." The PRMP provides a number of decisions that would correct any past forage allocation issues that might exist. For example, Livestock Grazing, Goal 1, #7; and Riparian

BLM Response to Letter No. 44 *continued*

Areas, Goal 1, #4 and 5 prescribe upland forage utilization criteria and riparian stubble-height criteria that would effectively result in an allocation of vegetation to watershed protection and wildlife habitat. In the short term, the BLM estimates that grazing use would be reduced by up to 25% as a result of implementing various RMP actions (see DRMP, p. 235a, #2, Alternative 2), which could be interpreted to mean that 25% would be available for other uses. In both the short and long term, the BLM believes that the management decisions in the PRMP would result in appropriate adjustments of livestock grazing use to levels commensurate with the carrying capacity of the land. Please also see response 44-2(a).

44-26: Your comments are noted.

44-27: BLM believes that the PRMP adequately addresses stocking levels and grazing capacity by requiring adjustments of livestock use based on (a) utilization pattern mapping and ESI surveys (see PRMP, Livestock Grazing, Goal 1, #2) and (b) utilization, riparian stubble heights, and bank shearing criteria (see PRMP, Livestock Grazing, Goal 1, #7; and Riparian Areas Goal 1, #4-7). The PRMP would also prioritize grazing allotments for adjustments of grazing use (see PRMP, Livestock Grazing Goal 1, #2). The BLM believes that this package of management decisions would result in appropriate adjustments of livestock grazing use to levels commensurate with the carrying capacity of the land.

44-28: The justification for past stocking levels, and detailed summaries of the number and kind of range improvements were presented in three Rangeland Program Summary progress reports published for the Challis Planning Unit in 1985, the Ellis-Pahsimeroi Planning Unit in 1987, and the Mackay-Big Lost Planning Unit in 1988. A review of these documents reveals the following: Over fifty-four miles of fence, eighty-six miles of pipeline, 6,573 acres of vegetation treatment projects, and eighty individual water development projects were completed during the first five years of plan implementation on thirty-six allotments throughout the Challis Resource Area. Recent ecological range condition inventories performed in 1994 and 1995 indicate that upland range conditions have improved significantly since the late 1970's on at least 20% of the Resource Area (see response 15-2).

44-29: Your comments are noted. The PRMP does not propose or justify current authorized grazing levels based on completion of range improvements.

44-30: The BLM believes that the assessment of factors in the past authorization of stocking levels is beyond the scope of the RMP. Such an assessment would not result in any meaningful information that would provide a sound basis for developing and implementing management actions to adjust grazing authorizations to proper levels. Appropriate "factors" that were used to develop management direction for adjustment of grazing authorizations through PRMP decisions included existing range conditions, inventories and vegetation monitoring.

44-31: The grazing regulations in 43 CFR 4110.3-3 provide the BLM with authority to restrict grazing "when the authorized officer determines that the soil, vegetation, or other resources on the public lands require immediate protection because of conditions such as drought, fire, flood, insect infestation, or when continued grazing use poses an imminent likelihood of significant resource damage." PRMP decisions on utilization criteria (see Livestock Grazing, Goal 1, #7) would also provide for adjustments of livestock use during drought or other years of low precipitation. The proposed utilization levels would be used as a "trigger" to move livestock between pastures and to remove livestock from allotments when the standards are reached for all pastures. For example, during a year of below normal forage production (or drought year), a given range site may produce only 100 pounds of forage, and a utilization standard of 50% would allow only 50 pounds of forage to be consumed before livestock are moved. During a year of normal precipitation when the site might produce 200 pounds of forage, a utilization level of 50% would allow 100 pounds of forage to be consumed.

44-32: The grazing regulations (43 CFR 4110.3) provide the BLM with the authority to make changes in permitted use (i.e., grazing preference). The regulations state that "these changes must be supported by monitoring, field observations, ecological site inventory or other data acceptable to the authorized officer." The PRMP would provide for the use of ecological site inventory data and utilization pattern mapping (Livestock Grazing, Goal 1, #2), upland utilization criteria (Livestock Grazing, Goal 1, #7), riparian stubble height criteria (Riparian Areas, Goal 1, #4 and 5) and bank shearing criteria (Riparian Areas, Goal 1, #6) as the primary data that would be used to support any necessary changes in permitted use.

44-33: Existing vegetation inventories were one of the many sources of data and information used by the BLM to formulate the RMP's goals, objectives, management decisions, alternatives, and environmental consequences. Updated vegetation inventories were completed on several allotments during 1994 and 1995 (see response 15-2). These inventories were used to document existing resource conditions and to infer changes in resource conditions when compared with previous inventory data. Coupled with the analysis of other types of resource data and information, the BLM developed and incorporated management decisions into the PRMP that are designed to ensure the maintenance and improvement of existing vegetation conditions.

44-34: Please see response 44-24. The BLM considers all existing AMPs to be valid until replaced or otherwise updated.

44-35: Please see the definitions of "road" and "vehicle way" in the glossary for the PRMP. The terms "road" and "vehicle way" were used somewhat synonymously in the analysis of effects on wildlife described in Chapter 4. The BLM agrees that road densities (for well-traveled and maintained roads) can affect habitat suitability for big game, particularly during hunting seasons and in areas of high intensity recreation use. The BLM determined that completion of a road density study (along with a coordinated effort with the Tribes to establish road density standards) was not essential to implementation of the RMP, based on several considerations. First, the apparent health and productivity of existing elk herds in the Challis RA suggests that current road densities on BLM lands are not having any appreciable adverse effect on the herds. Elk use is heaviest on BLM lands during winter when motor vehicle use on most roads is limited by winter conditions. During spring, summer, and fall, most of the animals are found on adjacent National Forest lands where security and thermal cover are more available. Current road densities within preferred elk habitats on public lands in the RA are estimated at less than 0.75 road miles/square mile of public land (also see response 44-3). Virtually all of these roads are primitive "vehicle ways" that are seldom maintained. Some studies suggest that such roads have little effect on elk habitat use (Perry and Overly 1975). Second, the BLM believes that the PRMP's proposed seasonal limitations on motorized vehicle use would adequately limit adverse effects on elk during the critical winter period. The PRMP would also limit motorized vehicle use to existing roads and vehicle ways Resource Area-wide, thus preventing the proliferation of new vehicle ways. Please review the PRMP decisions under Off-highway Vehicle Use for decisions which define when, where, and under what conditions motorized vehicle travel would be allowed on existing roads and vehicle ways. Finally, the following decisions would limit the adverse effects of roads on elk habitat use: the intended closure of any new logging roads that may be constructed during the life of the RMP (see PRMP, Attachment 8: Design Specifications, Forest Management: Road Construction and Rehabilitation, #3), seasonal restrictions on timber harvest to protect wildlife values (see PRMP, Forest Resources, Goal 1, #17), and restrictions on permitted activities on big game ranges and other key habitats (see PRMP, Wildlife Habitat, Goal 2, #8).

BLM Response to Letter No. 44 *continued*

44-36: Cumulative effects on wildlife resources were discussed in the DRMP on pages 331-332. Cumulative effects are also described in the PRMP, Chapter 4, generally at the end of each resource analysis. The management decisions identified in the PRMP were developed with consideration of cumulative effects from activities on adjacent National Forests, private and State lands, to ensure protection and maintenance of public land resources.

44-37: Several PRMP decisions, including those regarding the Cronk's Canyon ACEC and the Birch Creek ACEC, are designed to protect bighorn sheep habitat for these two small populations and prescribe measures for management of OHV use in these bighorn sheep habitats (see PRMP, ACECs, Goal 1, Cronk's Canyon and Birch Creek ACECs; and Wildlife Habitat, Goal 1, #6). No domestic sheep grazing is permitted on any BLM allotments in the vicinity of these ACECs. Two unimproved vehicle ways bisect the Birch Creek ACEC. The PRMP would limit OHV use on these roads to the spring-summer period between May 1 and December 15, and OHV use would be prohibited during the winter/spring period between December 16 and April 30. The BLM believes that these limitations would provide sufficient protection of the bighorn populations from disturbance by motorized vehicles. These small populations are largely habituated to motorized vehicle traffic, due to the close proximity of Highway 75 and Highway 93, which are immediately adjacent to these ACECs. Bighorn sheep in both of these areas are commonly observed feeding adjacent to these highways. The Idaho Department of Transportation has signed the highways to warn motorists about the sheep. BLM guidelines for domestic sheep management in bighorn sheep habitat would be implemented as part of the RMP (see Attachment 5: Standard Operating Procedures; "Wildlife" #2; and Attachment 7: 1998 Revised Guidelines for Domestic Sheep and Goat Management in Native Wild Sheep Habitats).

44-38: There is no evidence suggesting that domestic sheep are affecting winter range forage for bighorn sheep in the RA, because domestic sheep are not currently grazed on BLM public lands where bighorn sheep winter.

44-39: The IDFG has conducted a number of habitat studies on bighorn sheep habitat areas in the Challis RA, and the BLM has conducted nested frequency and forage utilization studies. Data from these studies do not suggest that habitat conditions are a limiting factor for bighorn sheep in the Challis RA. Domestic sheep are not grazed on BLM public lands overlapping bighorn sheep ranges in the Challis RA. Habitat studies, assessments, and cooperative efforts between the BLM, IDFG and the Tribes would not be precluded by the PRMP, and could

BLM Response to Letter No. 44 *continued*

be entered into if needed without incorporating a specific management decision in the PRMP.

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Appendices

Bayhorse Kilns

Appendix A: Cultural Resources

Item 1: Cultural Resources Special Areas

Birdie Peak - Preliminary work in the Birdie Peak area has identified archaeological values which may be significant to the Shoshone-Bannock Tribes, perhaps as a vision quest locale. The high peaks and ridges in the vicinity, the stunning viewsheds, and the type of features documented are all contributing factors in this assessment. The protection of the area is important as both an archaeological and traditional lifeway value.

Challis Archaeological Spring District - A total of 28 sites within the Challis Resource Area are listed on the National Register of Historic Places (NRHP) as part of the Challis Archaeological Spring District. These sites contain information on seasonal community patterns, areal settlement patterns, prehistoric chronologies, and climatic change through time (NRHP 1981). These sites appear to be associated with the persistence of a big game hunting strategy during prehistoric and into historic times. Butler (1978) refers to this as the Archaic Tradition, a regionally important concept that differs from previous hypotheses based on generally accepted Great Basin traditions. Collectively, these sites are of regional and national importance as a factor in defining and refining the archaeology of the Northern Rocky Mountain ecosystem.

Challis Bison Jump - The Challis Bison Jump is listed on the NRHP. Excavations in the early 1970s identified this site as a bison kill site, similar to the classic jumps prevalent in the Northern Plains cultural area and dating to late prehistoric times. The site is the only "jump" formally recorded in this region.

Lone Pine - Five sites located in the Lone Pine area are included as part of the NRHP listed Challis Archaeological Spring District. These sites contain cultural deposits predating 6700 B.P. based on the presence of apparently *in situ* remains significantly below Mazama ash. Test excavations identified over 45 "occupation" layers through time (Williams 1982). In addition, the Lone Pine sites can provide information on regional climatic sequences and changes and their relationship to settlement patterns and subsistence strategies through time. Finally, the presence of potential Paleoindian components in an "open" site situation such as the Lone Pine area is of regional and national significance, given the paucity of information on early man and the Paleoindian Period in North American archaeology.

Salmon River Corridor - Public lands along the Salmon River contain an abundance and apparent diversity of cultural resources. These sites have the potential to provide information on local settlement patterns, site function, and distribution within the Salmon River corridor. In addition, regional information on subsistence strategies, seasonal use, foraging patterns, resource procurement, chronology, and perhaps ethnicity can be obtained through additional work at these sites.

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Appendix B: Economy and Society

Item 1: 1991 Employment in the Two-County Region, by County and Employment Sector[1]

Employment Sector	Custer County[3]		Lemhi County[4]		Two-County Region	
	FTE[5]	% of county	FTE[5]	% of county	FTE[5]	% of region
Agriculture	430	22.93	666	25.04	1,096	24.18
Mining	669	35.68	181	6.80	850	18.74
Timber[6]	18	0.96	296	11.13	314	6.92
Visitors	335	17.87	695	26.13	1,030	22.71
Linked to ROI[2]	71	3.79	157	5.90	228	5.03
State and Local Government	121	6.45	256	9.62	377	8.31
Federal Government	195	10.40	367	13.80	562	12.39
Other	36	1.92	42	1.58	78	1.72
Total	1,875	100.00	2,660	100.00	4,535	100.00

[1] Source: The Custer-Lemhi County Economic Model (CLEModel), pp. 9-12; in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: A Model* (BLM 1994).

[2] "Linked to ROI" is defined as income in, and multiplier-generated by, industries servicing the spending of residents with outside incomes. "ROI" = "Resident's Outside Income" and is defined as a broad mix of incomes received by community residents from sources outside the communities. These include social security payments, public assistance, unemployment compensation, private retirement income, the receipt of dividend, interest, and rent payments, military (*e.g.*, national guard) income, and the income of out-commuters.

[3] Custer County figures are based on values for the Challis, Big Lost River, Stanley, and Pahsimeroi subregions shown in *Appendix B, Item 2*. The Pahsimeroi subregion includes the Patterson Division, which is in Lemhi County and has a population of 392.

[4] Lemhi County figures are based on values for the Salmon, Tendoy-Leadore, and North Fork subregions shown in *Appendix B, Item 2*.

[5] FTE - Full time equivalent (see *Glossary*).

[6] Baseline data for the timber sector are from 1991 and do not reflect closure of the Salmon Intermountain sawmill in 1995.

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Item 2: 1991 Employment in Custer and Lemhi Counties, by Subregion and Employment Sector[1]

Employment Sector	Custer County								Lemhi County					
	Challis Subregion		Big Lost River Subregion		Stanley Subregion		Pahsimeroi Subregion[3]		Salmon Subregion		Tendoy-Leadore Subregion		North Fork Subregion	
	FTE[4]	%	FTE[4]	%	FTE[4]	%	FTE[4]	%	FTE[4]	%	FTE[4]	%	FTE[4]	%
Agriculture	157	13.07	205	50.64	0	0.00	68	83.95	522	22.65	139	76.63	5	2.84
Mining	664	55.36	5	1.33	0	0.00	0	0.00	181	7.86	0	0.00	0	0.00
Timber[5]	12	1.00	6	1.54	0	0.00	0	0.00	293	12.74	0	0.00	3	1.70
Visitors	143	11.92	34	8.49	151	78.69	7	8.64	572	24.84	11	6.12	112	63.65
Linked to ROI[2]	32	2.65	36	8.80	1	0.58	2	2.47	150	6.51	3	1.55	4	2.27
State and Local Gov't	70	5.86	41	10.20	8	4.41	2	2.47	234	10.16	13	7.37	9	5.11
Federal Gov't	97	8.12	66	16.23	30	15.73	2	2.47	309	13.43	15	8.27	43	24.43
Other	24	2.02	11	2.77	1	0.59	0	0.00	42	1.81		0.06	0	0.00
Total	1,199	100.00	404	100.00	191	100.00	81	100.00	2,303	100.00	181	100.00	176	100.00

[1] Source: The Custer-Lemhi County Economic Model (CLEModel), pp. 9-12; in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: A Model* (BLM 1994).

[2] "Linked to ROI" is defined as income in, and multiplier-generated by, industries servicing the spending of residents with outside incomes. "ROI" = "Resident's Outside Income" and is defined as a broad mix of incomes received by community residents from sources outside the communities. These include social security payments, public assistance, unemployment compensation, private retirement income, the receipt of dividend, interest, and rent payments, military (*e.g.*, national guard) income, and the income of out-commuters.

[3] The Pahsimeroi subregion includes the Patterson Division, which is in Lemhi County and has a population of 392.

[4] FTE - Full time equivalent (see *Glossary*).

[5] Baseline data for the timber sector are from 1991, and do not reflect closure of the Salmon Intermountain sawmill in 1995.

Appendix B: Economy and Society

Item 3: 1991 Earnings in the Two-County Region, by County and Employment Sector[1]

Employment Sector	Custer County Earnings[3]		Lemhi County Earnings[4]		Two-County Region Earnings	
	$1,000s	**% of county**	**$1,000s**	**% of county**	**$1,000s**	**% of region**
Agriculture	10,020	21.92	11,234	21.66	21,254	21.78
Mining	22,227	48.61	5,660	10.91	27,887	28.58
Timber[5]	602	1.32	7,941	15.31	8,543	8.75
Visitors	3,908	8.55	9,817	18.92	13,725	14.06
Linked to ROI[2]	1,714	3.75	3,673	7.08	5,390	5.52
State and Local Government	2,845	6.22	6,016	11.60	8,861	9.08
Federal Government	3,317	7.25	6,589	12.70	9,906	10.15
Other	1,088	2.38	944	1.82	2,032	2.08
Earnings Total	45,721	100.00	51,874	100.00	97,595	100.00

[1] Source: The Custer-Lemhi County Economic Model (CLEModel), pp. 9-12; in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: A Model* (BLM 1994).

[2] "Linked to ROI" is defined as income in, and multiplier-generated by, industries servicing the spending of residents with outside incomes. "ROI" = "Resident's Outside Income" and is defined as a broad mix of incomes received by community residents from sources outside the communities. These include social security payments, public assistance, unemployment compensation, private retirement income, the receipt of dividend, interest, and rent payments, military (*e.g.*, national guard) income, and the income of out-commuters.

[3] Custer County figures are based on values for the Challis, Big Lost River, Stanley, and Pahsimeroi subregions shown in *Appendix B, Item 4*. The Pahsimeroi subregion includes the Patterson Division, which is in Lemhi County and has a population of 392.

[4] Lemhi County figures are based on values for the Salmon, Tendoy-Leadore, and North Fork subregions shown in *Appendix B, Item 4*.

[5] Baseline data for the timber sector are from 1991, and do not reflect closure of the Salmon Intermountain sawmill in 1995.

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Appendix B: Economy and Society

Item 4: 1991 Earnings in Custer and Lemhi Counties, by Subregion and Employment Sector (in $1,000s and % of Subregion)[1]

Employment Sector	Custer County								Lemhi County					
	Challis Subregion		Big Lost River Subregion		Stanley Subregion		Pahsimeroi Subregion[3]		Salmon Subregion		Tendoy-Leadore Subregion		North Fork Subregion	
	$1,000s	%	$1,000s	%	$1,000s	%	$1,000s	%	$1,000s	%	$1,000s	%	$1,000s	%
Agriculture	3,194	9.99	4,003	49.79	0	0.00	2,823	96.51	7,126	15.78	4,089	85.40	19	0.99
Mining	22,001	68.78	226	2.81	0	0.00	0	0.00	5,660	12.53	0	0.00	0	0.00
Timber[4]	410	1.28	192	2.39	0	0.00	0	0.00	7,866	17.41	0	0.00	75	3.89
Visitors	1,587	4.96	303	3.76	2,002	72.32	16	0.54	8,886	19.67	93	1.94	838	43.65
Linked to ROI[2]	729	2.28	939	11.68	22	0.80	24	0.82	3,564	7.89	53	1.10	56	2.94
State and Local Gov't	1,644	5.14	965	12.00	197	7.12	39	1.32	5,495	12.17	305	6.38	216	11.26
Federal Gov't	1,656	5.18	1,140	14.18	497	17.94	24	0.81	5,635	12.48	245	5.12	709	36.95
Other	765	2.39	273	3.39	50	1.82	0	0.00	935	2.07	3	0.06	6	0.32
Earnings Total	31,986	100.00	8,041	100.00	2,768	100.00	2,926	100.00	45,167	100.00	4,788	100.00	1,919	100.00

[1] Source: The Custer-Lemhi County Economic Model (CLEModel), pp. 9-12; in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: A Model* (BLM 1994).

[2] "Linked to ROI" is defined as income in, and multiplier-generated by, industries servicing the spending of residents with outside incomes. "ROI" = "Resident's Outside Income" and is defined as a broad mix of incomes received by community residents from sources outside the communities. These include social security payments, public assistance, unemployment compensation, private retirement income, the receipt of dividend, interest, and rent payments, military (*e.g.*, national guard) income, and the income of out-commuters.

[3] The Pahsimeroi subregion includes the Patterson Division, which is in Lemhi County and has a population of 392.

[4] Baseline data for the timber sector are from 1991, and do not reflect closure of the Salmon Intermountain sawmill in 1995.

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Appendix B: Economy and Society

Item 5: 1991 Personal Income Analysis for the Two-County Region, by County and Subregion[1]

County/ Subregion	Earnings		Resident's Outside Income[2]		Total Personal Income	
	$1,000s	% County/ Subregion	$1,000s	% County/ Subregion	$1,000s	% Two-County Region
Custer County	45,721	81.38	10,464	18.62	56,185	45.26
Challis Subregion	31,986	90.89	3,207	9.11	35,193	28.35
Big Lost River Subregion	8,041	64.78	4,373	35.22	12,414	10.00
Stanley Subregion	2,768	81.91	611	18.09	3,379	2.72
Pahsimeroi Subregion[3]	2,926	56.28	2,273	43.72	5,199	4.19
Lemhi County	51,874	76.34	16,076	23.66	67,950	54.74
Salmon Subregion	45,167	77.25	13,298	22.75	58,465	47.10
Tendoy-Leadore Subregion	4,788	85.29	826	14.71	5,614	4.52
North Fork Subregion	1,919	49.57	1,952	50.43	3,871	3.12
Total Two-County Region	**97,595**	**78.62**	**26,540**	**21.18**	**124,135**	**100.00**

[1] Source: The Custer-Lemhi County Economic Model (CLEModel), pp. 9-12; in *A Social, Economic and Fiscal Analysis of Custer and Lemhi Counties, Idaho: A Model* (BLM 1994).

[2] Resident's Outside Income is defined as a broad mix of incomes received by community residents from sources outside the communities. These include social security payments, public assistance, unemployment compensation, private retirement income, the receipt of dividend, interest, and rent payments, military (*e.g.*, national guard) income, and the income of out-commuters.

[3] The Pahsimeroi subregion includes the Patterson Division, which is in Lemhi County and has a population of 392.

Appendix B: Economy and Society

Item 6: Economic Values of Fisheries Resources in the Challis RA

Resident trout stream fishing in the Challis Resource Area is considered very good by the Idaho Department of Fish and Game. Mackay Reservoir has a high quality trout and kokanee fishery which is locally very popular. Steelhead trout fishing from the Salmon River is very popular and has State-wide, if not nation-wide, recognition. The current value of sport fishing for resident species and steelhead trout in the Challis Resource Area is estimated at approximately $662,000 per year (see discussion below).

Historically, an estimated 10,000 angler days (see *Glossary*) were spent in the Challis Planning Unit in 1974 -- 1,739 days on anadromous fisheries and 8,261 days on resident fisheries (USDI, BLM 1977). (Note: The Challis Planning Unit comprised only **one** portion of the current Challis Resource Area.) Recent estimates provided by the Idaho Department of Fish and Game (June and August, 1995 - see Planning Record) indicate an annual average of approximately 17,900 angler days were spent in the Challis RA in 1993 and 1994 -- 6,977 angler days on anadromous species (steelhead trout) and 10,894 angler days on resident game species.

Each year, large amounts of money are spent by anglers on license fees, tackle, food, beverages, lodging, fuel, boating, guide services, camping, etc. These expenditures provide economic benefits on local, regional, and State-wide levels. However, exact dollar amounts spent directly or indirectly on recreational fishing in a particular area are difficult to estimate. The following discussions present some research findings related to current and historic fisheries economic benefits. Dollar values should be viewed as general trends.

Resident Fisheries Values

Historic Economic Benefit: In 1974 approximately 8,261 angler days were spent on resident fisheries in the Challis Planning Unit (USDA, BLM 1977). Gordon *et. al.* (1973) calculated the value of one trout angler day to be $10.60. Thus, in 1974 approximately $87,567 may have been spent on resident species sport fishing in the Challis Planning Unit, assuming a non-trout species (mountain whitefish, kokanee salmon) angler day had the same value as a trout angler day.

Current Economic Benefit: The 1997 estimated angler day value for cold water sport fishing species is $41.08 (Sorg, *et. al.* 1985, adjusted for inflation). Recent Idaho Department of Fish and Game estimates indicate about 10,894 angler days were spent on resident sport fishing in the Challis RA, including 10,000 angler days on the popular Mackay Reservoir. These angler days would have an approximate annual value of $447,526.

Anadromous Fisheries Values

Commercially, anadromous fish produced in the Columbia River system were worth an estimated $100 million annually to the Pacific Northwest (Tuttle 1978). Mallet and Bjornn (1970) estimated that Idaho spawning grounds account for 55 percent of the steelhead trout, 34 percent of the spring chinook salmon, and 41 percent of the summer chinook salmon in the entire Columbia River drainage. Historically, the Salmon River watershed produced about 50 percent of the steelhead trout and 98 percent of the chinook salmon harvest in Idaho (Mallet and Bjornn 1970). (For an additional economic analysis of the chinook salmon fishery in the area (based on Tuttle *et. al.* (1975)), please see the 1977 Challis Environmental Impact Statement.

At present, hatchery-produced steelhead trout are the only anadromous fish species which can be harvested in the Challis Resource Area. No sport fishing of chinook or sockeye salmon is permitted (because these species are listed as endangered under the Endangered Species Act), and any wild steelhead trout which are caught must be released. However, the economic value of the chinook salmon is still described, to indicate the possible economic value of that species if its population was restored.

Steelhead Trout:

Historic Economic Benefit: No attempt was made in the 1977 Challis EIS to evaluate the annual net value of steelhead trout. The Idaho Department of Fish and Game estimated 1,166 wild steelhead trout spawned each year in the Salmon River drainage above the Lemhi River confluence (1970-77 average). Ninety-seven percent of these fish moved above the Pahsimeroi River confluence into and above the Challis RA. Steelhead trout have had a slightly higher commercial value than salmon; thus, the annual value of these fish in the 1970s would probably have been at least $167,624 ($143.76 spawning fish value x 1,166 spawning steelhead).

Current Economic Benefit: Recent IDFG data indicate anglers spent an average of 6,977 steelhead angler days on BLM river frontage in the RA during both the spring 1993 and 1994 steelhead trout seasons. The 1997 estimated value of one steelhead angler day is $30.73 (Donnelly, *et. al.* 1985, adjusted for inflation). Thus, the average annual value of steelhead trout sport fishing in the RA would be approximately $214,403.

An alternative method of calculation yields a similar result. Adjusting Tuttle *et. al.*'s 1974 spawning fish value for inflation since the 1970s (to $176.11) and assuming a continuing annual average of 1,166 spawning steelhead in the RA would mean the approximate annual value of steelhead trout fisheries in the Challis RA would be $205,344 in 1990s dollars.

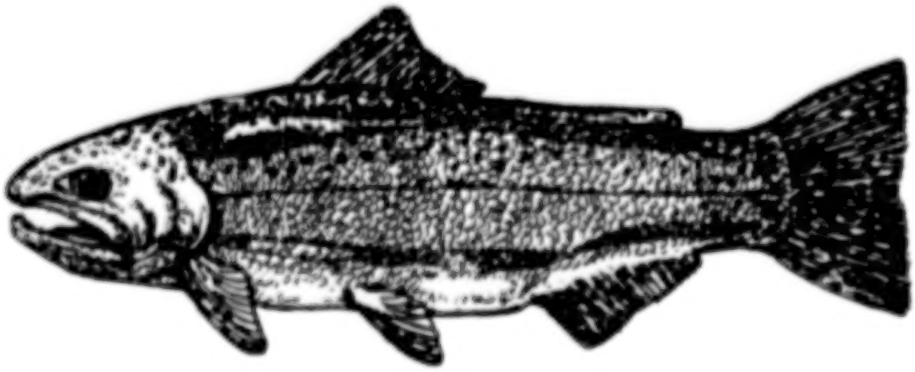
Chinook Salmon:

Historic Economic Benefit: Idaho Department of Fish and Game chinook salmon spawning surveys from the early 1970s indicated at least 180 summer chinook and 245 spring chinook redds could be attributed to the Challis RA each year. These counts probably approximated no more than half of the actual number of redds (Reingold, 1973), so about 850 redds were probably constructed annually. Bjornn (1975) found there were 1.3 males for each female spawner; thus, each redd represented 2.3 fish. Based on these data, an estimated annual run of 1,955 chinook salmon spawned in the East Fork Salmon River, Herd Creek, and main Salmon River above Challis Creek. (Other tributaries that produce chinook salmon (like the Pahsimeroi River) are not included in this estimate.) Tuttle *et. al.* (1975) calculated that each spawning salmon had a net annual value of $143.76. Thus, in the 1970s chinook salmon fisheries in the Resource Area would have been valued at approximately $281,051.

Current Economic Benefit: Redd counts for the entire Salmon River basin have diminished dramatically during the past two decades (see *Appendix C, Item 3*) and chinook salmon may no longer be harvested (except under Native American tribal treaty rights). Thus, the chinook salmon fishery no longer has any economic benefit to the local area. However, if Tuttle *et. al.*'s $143.76 value for spawning chinook salmon is adjusted for inflation since the 1970s, the estimated value of a spawning salmon would be $176.11. If chinook salmon populations could be restored to historic levels, 1,955 spawning chinook salmon would have an annual value of $344,295 in 1990s dollars.

Sockeye Salmon:

Sockeye salmon have insignificant economic value at this time, and this is not likely to change in the future.



Steelhead trout

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Appendix B: Economy and Society

Item 7: Economic Values of Select Wildlife Species

Several wildlife species of the Challis Resource Area have economic importance on a local, and possibly regional, level. Based on the estimates of economic value described below, huntable wildlife species in the Challis Resource Area are valued at over $2,200,000 annually.

The following estimates of economic value for various wildlife species should be viewed as general trends. For further information on how these estimates were calculated, see the *Planning Record* for (a) the Idaho Department of Fish and Game's data on hunter days (see *Glossary*) spent in this general geographic area, (b) the BLM's calculations to estimate the portion of those days attributable to the Challis Resource Area, and (c) current Idaho BLM hunter day values.

Community businesses and outfitter/guide services in the Mackay, Challis, and Salmon, Idaho areas depend on elk hunting for a substantial portion of income. In 1997 an elk hunter day was valued at $56.55 (Sorg and Nelson 1986, adjusted for inflation). Average annual estimated elk hunter days in the Challis Resource Area for general and controlled hunts approximate 11,743 days. Thus, elk hunting in the Challis Resource Area is worth approximately $664,067 annually.

Community businesses and outfitter/guide services in Mackay and Challis, Idaho also depend on mule deer hunter expenditures for a portion of income. The 1997 estimated hunter day value for mule deer was $43.18 (Donnelly and Nelson 1986, adjusted for inflation). According to recent IDFG data, mule deer hunters spend an annual average of 25,269 hunter days on Challis Resource Area public lands. Thus, the value of mule deer in the RA would be approximately $1,091,115 annually.

Antelope hunting expenditures probably provide income for businesses in Challis and Mackay, Idaho. In 1993, hunters spent an estimated 2,881 hunter days hunting antelope in the Challis RA. In 1997 each antelope hunter day was worth $86.81 (Loomis, *et. al.* 1985, adjusted for inflation), for a total annual value of $250,100.

Bighorn sheep hunters spend an annual average of 277 hunter days hunting bighorn sheep in the Challis Resource Area, and bear or mountain lion hunters spent 189 hunter days hunting black bear or mountain lions (1993 and 1991 data). An "other big game" (*e.g.*, bighorn sheep, bear, mountain lion) hunter day was valued at $57.88 in 1997 (Sorg and Nelson 1987, adjusted for inflation). Thus, bighorn sheep, black bear, and mountain lion hunting in the Challis Resource Area has an approximate annual value of $26,972 (466 hunter days x $57.88). No data are available on the economic value of other furbearing wildlife species.

About 1,101 hunter days were spent hunting waterfowl in the Challis Resource Area in 1993. Each waterfowl hunter day had a value of $45.83 in 1997 (Sorg and Nelson March, 1987, adjusted for inflation), for a total economic value of approximately $50,459.

In the Challis Resource Area in 1993, about 2,528 hunter days were spent hunting various upland game and small game animals, including forest grouse, sage grouse, chukar, huns, pheasants, rabbits, and doves. An upland and small game hunter day was valued at $45.81 in 1997 (Young *et. al.* 1987, adjusted for inflation). Thus, upland and small game hunting in the RA has an approximate value of $115,808.

Appendix C: Fisheries

Item 1: Game Fish Species Distribution, by Drainage and Stream[1]

Drainage/Stream	Resident Species					Anadromous Species	
	Cutthroat Trout	Brook Trout	Bull Trout	Rainbow Trout	Mountain Whitefish	Chinook Salmon	Steelhead Trout
Salmon River[2]	x		x	x	x	x	x
Allison Creek	x						
McKim Creek	x		x	x			
Ellis Creek				x			
Cherry Creek				x			
Cow Creek	x			x			x
Pat Hughes Creek	x		x				
Little Hat Creek				x			
Morgan Creek	x	x	x	x	x	x	x
West Fork Morgan Creek	x	x	x	x			x
Challis Creek	x	x	x	x	x		x
Mill Creek	x	x	x	x			
Eddy Creek	x			x			
Darling Creek	x						
Garden Creek	x	x		x			
Buckskin Creek	x						
Bayhorse Creek	x	x	x	x			x
Lyon Creek	x						
Kinnikinic Creek	x	x		x			
Spud Creek	x						
Sullivan Creek	x						
Squaw Creek	x		x	x	x	x	x
Thompson Creek	x	x	x	x	x	x	x
Pat Hughes Creek		x					

Drainage/Stream	Resident Species					Anadromous Species	
	Cutthroat Trout	Brook Trout	Bull Trout	Rainbow Trout	Mountain Whitefish	Chinook Salmon	Steelhead Trout
Pahsimeroi River	x	x	x	x	x	x	x
Big Creek	x	x	x	x		x	x
Burnt Creek		x	x	x			
Big Gulch			x				
Ditch Creek			x				
Tater Creek			x				
Short Creek				x			
Morse Creek	x		x				
Lawson Creek				x			
Donkey Creek	x			x			
Falls Creek	x		x				
Goldburg Creek	x	x	x		x		
Little Morgan Creek	x		x	x			
Mahogany Creek			x				
Patterson Creek	x		x				x
Little Lost River		x	x	x			
Dry Creek	x	x					
Summit Creek		x		x			
East Fork Salmon River	x		x	x	x	x	x
Road Creek	x			x			
Horse Basin Creek	x						
Mosquito Creek	x						
Bear Creek	x			x			
Herd Creek	x		x	x	x	x	x
Lake Creek	x			x		x	x
Big Lake Creek				x	x	x	x
McDonald Creek				x			
Fox Creek			x				

Drainage/Stream	Resident Species					Anadromous Species	
	Cutthroat Trout	Brook Trout	Bull Trout	Rainbow Trout	Mountain Whitefish	Chinook Salmon	Steelhead Trout
Pine Creek			x				
Big Boulder Creek	x		x	x	x	x	x
Little Boulder Creek	x		x	x	x	x	x
Big Lost River		x		x			
Twin Bridges Creek				x			
Thousand Springs		x		x			
Mackay Reservoir[3]				x			

[1] This table lists the majority of game fish species distribution information for the Challis Resource Area, as of August 1998. Additional species presence may be confirmed in the future as additonal information becomes available.

[2] Sockeye salmon also migrate in the main Salmon River.

[3] Kokanee salmon are also found in Mackay Reservoir.

Sources: Species distribution information for westslope cutthroat trout, brook trout, bull trout, rainbow trout, chinook salmon, and steelhead rainbow trout is from stream surveys conducted in the Challis RA in summer, 1994 and other recent presence/absence surveys conducted by BLM personnel. Information about mountain whitefish distribution is from Challis RA historic files.

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Appendix C: Fisheries

Item 2: Existing and Potential Spawning and Rearing Habitat Conditions of Surveyed Anadromous and Resident Fisheries Streams in the Challis RA

Stream	Spawning Habitat[1]			Rearing Habitat[1]		
	Existing	Potential	Limiting Factors	Existing	Potential	Limiting Factors
Salmon River	F/G	F/G	siltation	G	E	dewatering diversions
Allison Creek	F	F	gravels gradient	F	F/G	pool:riffle dewatering
McKim Creek	F	F	gravel gradient	F	F	pool:riffle dewatering
Morgan Creek	F/P	G	private land dewatering migration barrier	F	G	private land dewatering diversions
Challis Creek	G	E	dewatering	F	G	dewatering
Bayhorse Creek	P	F	dewatering gradient	P	F	dewatering pool:riffle
Squaw Creek	F/G	G/E	dewatering sediment	F	G	dewatering pool:riffle
Thompson Creek	F/G	G/E	sediment	F	G	pool:riffle
U. Pahsimeroi River	F/G	G	dewatering	F/G	E	dewatering
L. Pahsimeroi River	G/E	E	private land dewatering	G/E	E	private land dewatering
Big Creek - upper[2]	E	E	n/a	E	E	n/a
Big Creek - lower[2]	P	P	dewatering	P	P	dewatering
Burnt Creek	F/P	E	livestock	F/P	E	livestock
Goldburg Creek	G	E	private land	G	E	private land
Mahogany Creek	F	F	livestock elevation	F	F	livestock elevation
Little Morgan Cr. - upper[2]	G	G	n/a	G	G	n/a

Stream	**Spawning Habitat[1]**			**Rearing Habitat[1]**		
	Existing	**Potential**	**Limiting Factors**	**Existing**	**Potential**	**Limiting Factors**
Little Morgan Cr. - lower[2]	P	P	dewatering	P	P	dewatering
Patterson Cr. - upper[2]	G	G	old mine (inactive)	G	G	old mine (inactive)
Patterson Cr. - lower[2]	P	P	mining dewatering	P	P	mining dewatering
Summit Creek (Little Lost River)	G/E	E	State land livestock	G/E	E	State land livestock
East Fork Salmon River	F/G	E	sediment	G	E	private land pool quality
Herd Creek	F	E	sediment private land	G	E	sediment private land
Lake Creek	P	F	gravels gradient	F	F	gradient pool:riffle
Big Lake Creek	F	G	gradient	F	G	gradient pool:riffle
Big Boulder Cr.	P	F	gradient gravels	F	G	gradient pool:riffle
Little Boulder Cr.	P	F	gradient gravels	F	G	gradient pool:riffle
Road Creek	P	F	sediment channel condition	P	F	pool quality channel condition

Source: Challis Resource Area stream surveys; Summer, 1994.

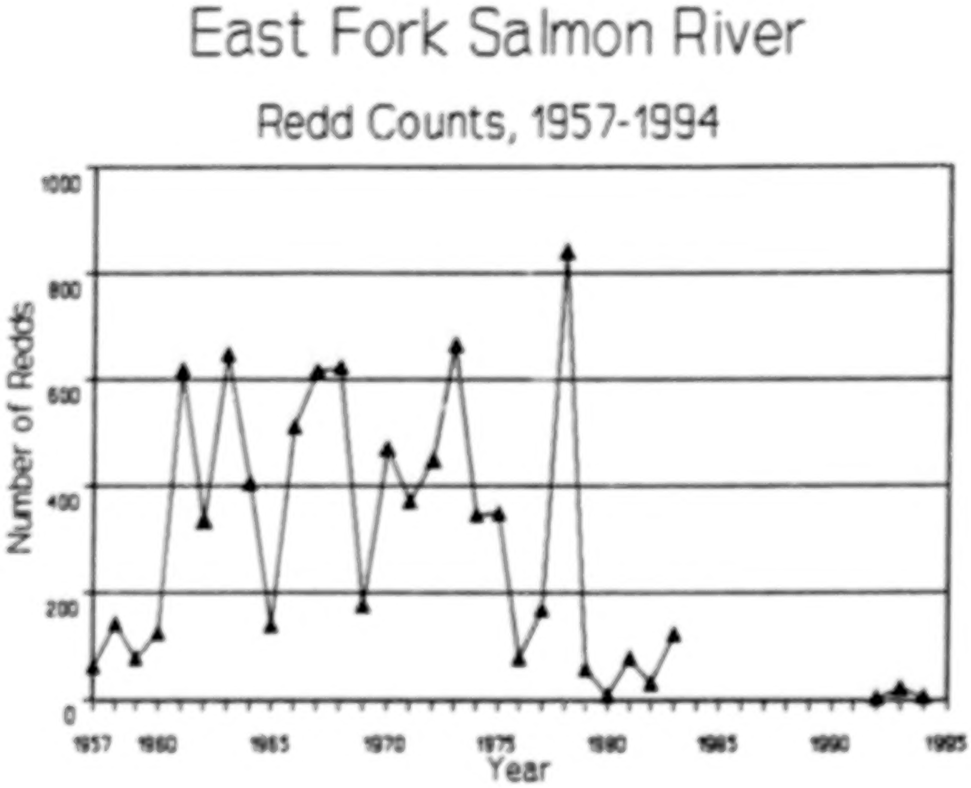
[1] E = Excellent; G = Good; F = Fair; P = Poor.

[2] The lower 11.0 miles of Big Creek, the lower 4.0 miles of Little Morgan Creek, and the middle 6.0 miles of Patterson Creek are limited by dewatering. "Upper" means that section of stream hydrologically connected to the perennial portion of the stream. "Lower" means that portion of the stream dewatered by diversion and (or) hydrologically connected to the Pahsimeroi River, with a dewatered center reach.

Appendix C: Fisheries

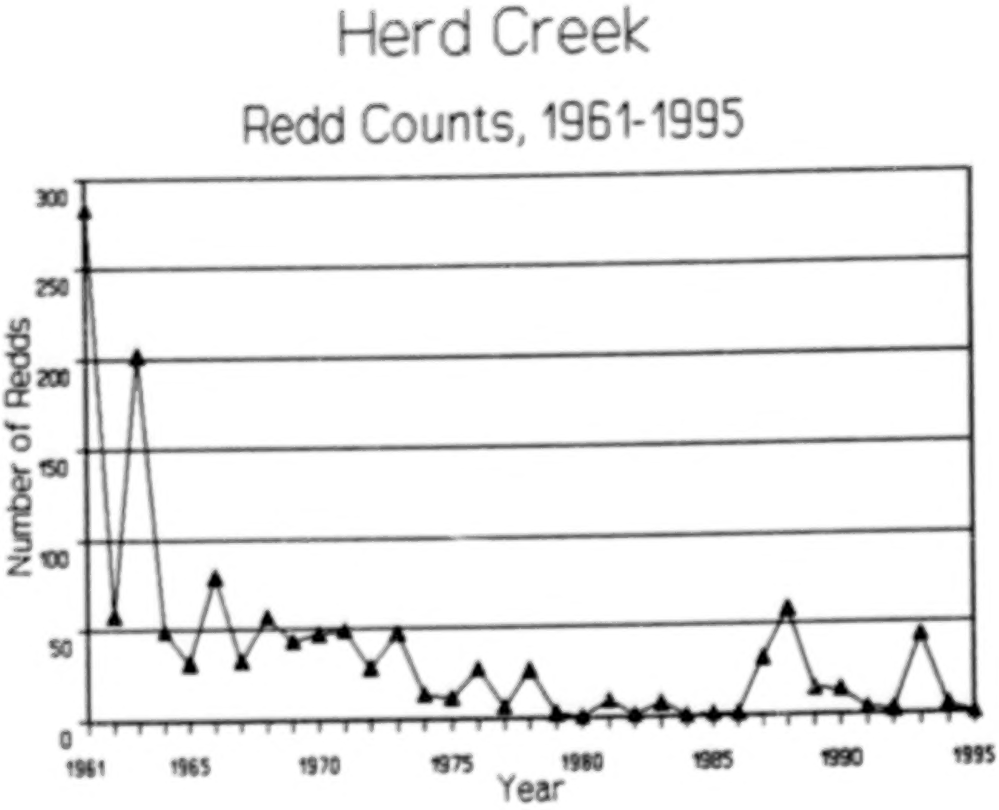
Item 3: Counts of Spring Chinook Salmon Redds

Annual survey counts of spring chinook salmon redds constructed in two important anadromous fisheries streams of the Challis Resource Area (the East Fork Salmon River and Herd Creek) indicate that the number of redds constructed each year has decreased substantially.



(**Note:** No counts were performed from 1984 to 1991. Only portions of the drainage were counted in 1992-1994.)

(**Sources:** Hall-Griswold and Cochnauer 1988; Saffel *et al* 1995.)



Herd Creek

Redd Counts, 1961-1995

(**Sources:** Hall-Griswold and Cochnauer 1988; Richards and Cernera 1988, Richards *et al* 1989, Rowe *et al* 1989, and Rowe *et al* 1991 *in* Rowe *et al* 1994; Mike Rowe, personal communication 1996.)

Appendix C: Fisheries

Item 4: Stream Ownership and Condition Rating for Surveyed Portions of Fisheries Streams of the Challis RA (in miles)

Drainage/Stream	Private/State Ownership					BLM Public Lands					Surveyed Stream Totals
	Excellent	Good	Fair	Poor	Total	Excellent	Good	Fair	Poor	Total	
Salmon River	--	16.80	--	--	16.80	--	26.5	--	--	26.5	43.30
Allison Creek	--	--	0.40	1.00	1.40	--	--	1.35	--	1.35	2.75
McKim Creek	--	--	1.03	0.50	1.53	--	--	0.47	--	0.47	2.00
Morgan Creek	--	--	2.85	1.75	4.60	--	7.5	--	--	7.50	12.10
Challis Creek	--	3.0	4.75	0.25	8.0	--	--	0.5	--	0.5	8.5
Mill Creek	--	--	0.8	--	0.8	--	--	3.6	--	3.6	4.4
Garden Creek	Unknown				8.4	--	--	--	--	0.0	8.4
Birch Creek	--	--	0.6	--	0.6	--	--	--	2.0	2.0	2.6
Bayhorse Creek	.55	0.75	0.5	--	1.8	1.6	0.2	--	--	1.8	3.2
Lyon Creek	--	--	0.6	--	0.6	--	1.1	--	0.5	1.6	2.2
Kinnikinic Creek	--	--	1.0	--	1.0	—	2.5	1.3	--	3.8	4.8
Squaw Creek	--	1.6	2.0	--	3.6	0.2	0.9	0.8	--	1.9	5.5
Thompson Creek	--	--	0.3	--	0.3	.25	6.4	0.95	--	7.6	7.9

Drainage/Stream	Private/State Ownership					BLM Public Lands					Surveyed Stream Totals
	Excellent	Good	Fair	Poor	Total	Excellent	Good	Fair	Poor	Total	
Upper Pahsimeroi River	--	--	--	--	0.0	--	11.40	--	4.5	15.90	15.90
Lower Pahsimeroi River	Unknown				24.90	--	--	--	-	0.00	24.90
Big Creek	Unknown				4.40	0.60	0.32	--	6.43	7.35	11.75
Burnt Creek	--	--	0.20	3.40	3.60	--	2.85	3.00	2.30	8.15	11.75
Goldburg Creek	Unknown				11.63	--	0.70	0.67	--	1.37	13.00
Mahogany Creek	--	--	--	--	0.0	--	--	1.75	0.50	2.25	2.25
Little Morgan Creek	--	--	0.75	--	0.75	--	2.75	--	2.75	5.50	6.25
Patterson Creek	Unknown				9.24	0.33	--	1.4	3.78	5.51	14.75
Summit Creek (Little Lost River)	--	--	0.50	--	0.50	2.00	--	--	--	2.00	2.50
East Fork Salmon River	--	3.2	13.0	--	16.2	--	1.0	4.0	--	5.0	20.2
Herd Creek	--	1.6	2.0	--	3.6	--	2.6	1.2	--	3.8	7.4
Lake Creek	--	--	1.0	--	1.0	--	3.8	3.0	--	6.8	7.6
Road Creek	--	--	--	4.75	4.75	--	7.2	2.0	0.5	9.7	14.4
Big Lake Creek	--	2.2	--	--	2.2	--	1.2	--	--	1.2	3.4
Big Boulder Creek	0.1	0.2	--	--	0.3	0.9	0.3	--	--	1.2	1.5
Little Boulder Creek	0.3	--	--	--	0.3	1.8	--	--	--	1.8	2.1

Rating System: Adapted from a "Stream Habitat Evaluation" process developed by the Denver Service Center - BLM (Denver, Colorado) on one-quarter mile stream section surveys. Ratings are developed by assigning points from 1 to 4, with 4 being "excellent," to these factors: stream shade, streambank condition, streambank stability, stream channel stability, and siltation of streambed, summing the points, and applying the sum to this scale: 17+ = Excellent; 14-16 = Good; 10-13 = Fair; 5-9 = Poor.

Sources: Challis Unit Resource Analysis, Volume 2, Fisheries Section; and Summary of 1997 Field Inventory - updated to reflect monitoring and condition assessments from 1993 through 1997.

Appendix C: Fisheries

Item 5: Summary of Fisheries Habitat Condition in Drainages of the Challis RA

NOTE: This Appendix item summarizes detailed information contained in Appendix C: Fisheries, Items 2, 4, and 7.

Salmon River Drainage

The Salmon River has multi-state value, and has been classified as a "Class I" (*i.e.*, the highest fishery value) stream by the Idaho Department of Fish and Game. The Salmon River is the passageway for all anadromous fish in the region and is highly valued for sport fishing of resident fish species.

The fragmented ownership along the Salmon River in the Resource Area makes fisheries management and habitat improvement difficult. More than 62 miles of the Salmon River are within the Challis Resource Area. The BLM administers both banks along 20 miles and one bank along 14 miles; the remaining 28 miles are State or privately owned on both sides.

The majority of the water surface in the mainstem of the Salmon River can be characterized as riffle or deep run/pool habitat. Large pools in the Salmon River are extremely important holding areas for salmon and steelhead trout during migration. The bank stability of the mainstem Salmon River varies between the protected canyon areas and along many of the broader floodplain reaches, but is rated as fair to good overall. Lateral bank failures occur on both private and public lands along the mainstem Salmon River, due to naturally occurring events (*e.g.*, high spring flows) and limited woody vegetation along some streambanks.

The Salmon River is vital to the passage of thousands of adult steelhead trout and chinook salmon which spawn upstream of the Challis Resource Area. Young steelhead and salmon smolts also depend on the Salmon River for temporary rearing habitat as they outmigrate to the ocean. Some summer chinook salmon spawning occurs in the Salmon River in and around the confluence with the East Fork Salmon River, although annual redd counts by the Idaho Department of Fish and Game in the Salmon River between Thompson Creek (upper boundary of the Challis Resource Area) and the town of Challis, Idaho indicate this activity is limited (IDFG, personal communication - Jim Lukins, 1992). The water temperature of the Salmon River below the town of Challis can exceed 70 °F in the late summer as water conditions approach low flows.

Dewatering of streams for agricultural purposes is widespread in the tributaries of the main Salmon River. Allison, Challis, Morgan, Bayhorse, and Garden creeks may be completely dewatered during low water years. In low water years Squaw and Thompson creeks can also be sufficiently dewatered to prevent salmon from spawning. If water flows could be maintained during the entire year, all of these streams have the potential to accommodate spawning and rearing salmon.

The main Salmon River has a rather limited resident salmonid fishery consisting primarily of rainbow trout. Most of the rainbow trout are stocked and show good growth throughout the summer; however, population densities remain low. Westslope cutthroat trout and bull trout are also found in the main Salmon River in low numbers, although they are most often encountered in tributary streams. Bull trout can no longer be harvested as a sport fish. Mountain whitefish are also present in the Salmon River and are frequently sought after during the winter.

Stream surveys indicate many of the tributaries of the Salmon River in the Resource Area are in fair to good fishery habitat condition. Instream cover is fair to good, streambank and channel stability are good to fair, bank cover is good to fair, and the canopy cover (shading) is fair to good. Pool:riffle ratios on most streams are fair at approximately 30:70, with the exception of Morgan Creek (58:42). Pool quality is generally fair to poor, with most streams averaging 70 to 90% of their pool area in classes 4 or 5.

Pahsimeroi River Drainage

The Pahsimeroi River is the largest tributary to the Salmon River in the Challis Resource Area. The Pahsimeroi headwaters are on the east slope of the Lost River Range, which contains Mount Borah, the highest peak in Idaho. The main Pahsimeroi River is 40.8 miles long from its mouth to the Challis National Forest boundary. The lower 24.9 miles are privately owned and the upper 15.9 miles are administered by either the BLM or USFS. Typically, BLM and USFS stream surveys are confined to the upper reaches because of land ownership.

A small anadromous fish hatchery (owned by the Idaho Power Company and operated by the Idaho Department of Fish and Game) is located near the mouth of the Pahsimeroi River. Historically, the Pahsimeroi River was a prime spawning and rearing stream for natural steelhead trout and summer chinook salmon. Currently, all natural steelhead trout and summer chinook salmon are diverted into the hatchery and held for egg collection. The Pahsimeroi River is ideal for fish production because of the relatively constant flow of the lower Pahsimeroi River from numerous high quality springs along its lower reaches. However, the upper river and the upper one-third of private property dewaters in early summer.

Resident salmonids are present in adequate densities to provide a fair to good wild trout fishery throughout much of the upper drainage on public land. The lower Pahsimeroi River on private land supports a good resident rainbow trout fishery. The Idaho Department of Fish and Game manages the drainage as a wild trout fishery by natural reproduction, with harvest controlled under their general regulations (*i.e.*, except for a State-wide closure on bull trout, no special regulations for resident fish species are in place on the Pahsimeroi River).

The upper Pahsimeroi River drainage was surveyed in 1981 to determine the physical habitat availability and condition for salmonid production.

In general, the upper Pahsimeroi River on public land is in fair to good fishery condition. The pool:riffle ratio is very good, averaging 42:48. The pool quality is, however, rated as fair to good (good depth and size, but only fair bank and instream cover). Approximately 48% of the pools were in classes 1, 2, or 3. Spawning gravels appear to be relatively abundant, and surface fines are at approximately 18 percent. Channel dewatering is probably the most limiting factor for salmonid production in the upper Pahsimeroi River. However, there is high potential to improve the available spawning habitat and instream flows through cooperative management throughout the drainage.

Few tributaries to the Pahsimeroi River have surface flows which reach the mainstem Pahsimeroi, due to irrigation diversions and the high natural permeability of the alluvial soils. The major tributaries with the potential for good yearlong flows are Little Morgan Creek, Morse Creek, Falls Creek, Patterson Creek, Big Creek, Goldburg Creek, the upper Pahsimeroi River, and Burnt Creek. The upper Pahsimeroi River and Burnt Creek are above the Pahsimeroi "sinks," and subsequently have limited access for anadromous fish (especially chinook salmon, which spawn in the summer during the height of the irrigation season). Thus, the potential for anadromous fish production in the upper tributaries is extremely limited at the present. However, all of these streams contain good populations of bull trout and (or) westslope cutthroat trout, which have been able to access the upper tributaries during higher flows.

In general, the surveyed tributaries of the Pahsimeroi River on public land are in fair habitat condition for resident salmonid species. The pool:riffle ratios average around 40:60, which is good for streams in this region. However, pool quality is relatively poor, with 80 to 90 percent in classes 4 or 5. Streambank and channel stability are generally good. However, all tributaries have isolated sections which have poor bank and channel stability, with extensive bank failures and associated channel sedimentation. Bank cover (especially woody vegetation) and instream cover are rated as fair. Spawning gravels are present in limited quantity and fair quality, with the exception of Big Creek and Patterson Creek, where surveys located little or no suitable substrate on public land. The presence of bull trout and westslope cutthroat trout in both of these drainages suggests that spawning gravels are present which were not identified during the survey. Although the existing spawning and rearing conditions on the upper Pahsimeroi River can only be rated as fair, the potential to develop good to excellent conditions through good management is high. The major limiting factor on all tributaries is low flow conditions because of agricultural diversions.

East Fork Salmon River Drainage

The East Fork Salmon River is critical for the recovery and enhancement of the anadromous fish stocks in the upper Salmon River. The East Fork Salmon River is classified as a "Class I" stream by the Idaho Department of Fish and Game. Historically, the East Fork drainage supported large runs of both chinook salmon and steelhead trout. Regional fishery biologists consider the East Fork to have excellent spawning potential, especially for chinook salmon. Only five miles of the 21 miles of the East Fork located within the Challis Resource Area are in public ownership. Five streams in the East Fork drainage have been identified as providing potential spawning and rearing habitat for anadromous fish: Herd, Big Boulder, Lake, Little Boulder, and Big Lake creeks. Herd Creek has the highest potential for salmonid production in the drainage.

Cobble embeddedness in the mainstem East Fork Salmon River and Herd Creek and Lake Creek generally is greater than 20%, while cobble embeddedness in Big Lake, Big Boulder, and Little Boulder creeks is generally less than 20% due to their higher gradients. Road Creek is the only exception, with embeddedness ratings well above 20%. Bank stability on the East Fork on public land is rated fair to good; however, bank stability is rated fair to poor on most private ground. Overall channel stability is rated as good, with good armoring and little channel shifting and braiding. Some rip-rap has been installed along the East Fork to help maintain the channel stability in highly erosive reaches. The bank and channel stability on the tributaries is generally quite good as the result of natural armoring by the large cobble/boulder substrate. The high gradient and heavy woody riparian vegetation help make the tributaries less susceptible to livestock damage. The three main exceptions are localized portions of Road Creek and Lake Creek and the private sections of Herd Creek, which have unstable banks and channels as the result of improper grazing management in the riparian zones.

No tributary streams of the East Fork Salmon River drainage are stocked with resident trout species by the Idaho Department of Fish and Game (IDFG). However, during the past 10 years, the IDFG has periodically stocked the East Fork Salmon River and Herd Creek with hatchery produced steelhead trout and occasionally chinook salmon. The Sawtooth Hatchery will be the primary source of spring chinook salmon in the future. In addition to releasing smolts to return as adults to the hatchery, the hatchery is being utilized as an outplanting facility to seed under-utilized habitats. The East Fork has been identified as a recipient for the release of 700,000 East Fork stock chinook smolts and 200,000 fingerlings from the Sawtooth Hatchery (BPA 1991).

The IDFG estimates that the East Fork drainage collectively contains about 95 miles of spawning and rearing habitat for anadromous fish (Petrosky and Holubetz, 1986). Spring chinook salmon spawn in the East Fork, Herd Creek, Big Boulder Creek, and Little Boulder Creek. Estimates suggest that about 30% of the redds in the East Fork drainage occur in Herd Creek. Summer chinook are generally "big river" fish; they spawn primarily in the 49 miles of the upper Salmon River above the East Fork and, to a lesser extent, in the lower portion of the East Fork. The East Fork and its tributaries are also important steelhead trout habitat. Steelhead trout spawning occurs in Herd Creek, Big Lake Creek, Big Boulder Creek, and Little Boulder Creek.

Cattle ranching is the main agricultural use along the East Fork Salmon River. Historically, mining was also an important use of the region. The Livingston Mine, currently inactive, was the largest mine in the drainage and is located at the head of Jim Creek, a tributary to Big Boulder Creek. Both cattle ranching and mining activities have introduced sediment into many stream channels, limiting fisheries habitat.

The mainstem East Fork Salmon River generally falls into the 20% embeddedness category, which is above the desired management goal of <20%. Approximately 70% of the available spawning gravel in Herd Creek falls into the fair category, with surface fines approaching 20%. Most of the tributaries have embeddedness ratings of less than 20%; but they have limited spawning potential due to high channel gradients and (or) gravels which are unavailable because of migration barriers.

Six streams in the East Fork Salmon River drainage have been identified as providing existing or potential spawning and rearing habitat for resident and anadromous salmonids: Road Creek, Herd Creek, Big Boulder Creek, Lake Creek, Little Boulder Creek, and Big Lake Creek. In general, the tributaries of the East Fork on public land appear to be in fair to good condition. Instream cover, canopy cover (shading), and low bank cover are generally rated as good, while bank and channel stability are rated as fair to good. The pool:riffle ratios are fair at approximately 30:70. Pool quality is also limited, with most pools falling into classes 4 and 5 due to a lack in overall pool size. However, pool size naturally decreases as stream gradient increases. Pool:riffle ratios and pool quality tend to limit the overall carrying capacity of the tributaries for rearing and overwintering salmonids.

Big Lost River Drainage

The Big Lost River Valley is one of the major structural intermountain basins of east central Idaho. It is located at the boundary between the northern portion of the Snake River Basin and the southern-most section of the Northern Rocky Mountains.

The mainstem Big Lost River is formed about 29 river miles upstream from Mackay Reservoir by the confluence of the East Fork of the Big Lost River and North Fork of the Big Lost River. There are approximately 180 miles of Big Lost River tributary streams within the Challis Resource Area. However, most streams are ephemeral or intermittent and provide little or no fishery value. The primary tributaries to the Big Lost River within the Resource Area are the East Fork of the Big Lost River, North Fork of the Big Lost River, and Thousand Springs Creek.

The Big Lost River has historically had streambank erosion problems; aquatic specialists in the region consider this to be the most critical factor in managing the drainage. During high flows, extensive movement of the streambed material occurs, causing major annual changes by in the channel configuration. Critical streambank erosion sites were identified by the Idaho Department of Health and Welfare in 1980. The area of greatest concern is mostly private land which extends along the 27-mile reach from the Bartlett Point Bridge to Mackay Reservoir. These critical streambank erosion sites are generally within the sagebrush-grass and riparian vegetation types. Various agencies and land owners have applied a variety of structural and non-structural treatments since 1980, with moderate success.

Streams in the Big Lost River drainage lose water very rapidly after they leave the mountains and flow across the alluvial fans in the valleys. On the Big Lost River the bed loss is so great that at medium to low flow, the entire surface flow in the mainstem disappears into the alluvium in the "Chilly Butte" area and is known locally as the "sinks." The primary fishery values of the river in the Resource Area lie in the upper reach, which runs 7 miles from the confluence of the East and North Forks and runs to the "sinks" area near Chilly Buttes.

The Big Lost River is a unique fishery because it has been isolated from other downstream drainages for hundreds of years. The fish population in the Big Lost River is comprised primarily of planted salmonids and native sculpins. Results of electrofishing carried out in the drainage by the IDFG indicate a fish population made up of rainbow trout, brook trout, mountain whitefish, and sculpin. Bull trout have been found in the system, but no documented occurrence has occurred since 1976 when the IDFG found them in the Big Lost River below Arco, Idaho. Kokanee salmon are present in Mackay Reservoir and utilize the Big Lost River above the reservoir for spawning in the fall. Overall, the Big Lost River drainage is considered to be one of the better fisheries in eastern Idaho. The Big Lost River drainage is managed primarily as a wild trout fishery by natural reproduction with special regulations in place to limit the annual harvest and increase the number of larger fish in the population. Some fish stocking does occur in the upper drainages on National Forest land, but little or no stocking has taken place on the lower river in the Resource Area in the recent past. Recent surveys by the IDFG indicate the Big Lost River below Mackay Reservoir has an excellent population of trophy-sized (>18 inches) rainbow trout and a good population of large brook trout. Like other areas in Idaho, fishing pressure on the Big Lost River is steadily increasing.

The Big Lost River is beset by a number of problems impacting the fishery. Sections of streams in the upper watershed show damage by livestock grazing, which is aggravated by natural factors such as heavy surface runoff caused by rapid spring snowmelt and high intensity localized summer storm events. Riverbank erosion along the Big Lost River is the major problem contributing to water quality degradation and sedimentation of fisheries and macroinvertebrate habitat in the river and Mackay Reservoir. In some localized areas of the lower reach, winter icing contributes to bank and channel damage and, in some cases, winter fish kill. In the Chilly Sinks reach, the surface water sinks underground during the late summer leaving a dry channel, thus allowing only a transitory fish population during high flow periods.

Only two streams in the Big Lost River drainage within the Challis Resource Area presently have adequate habitat for good salmonid fishery production. These are the upper mainstem of the Big Lost River and Thousands Springs Creek. However, Burnt Creek and Grant Creek both have an adequate supply of year round flow to potentially maintain a small resident trout fishery if habitat conditions could be improved. Mackay Reservoir also provides a good put-and-take fishery for rainbow trout and kokanee salmon. It is known as one of the best ice fishing lakes in the region.

Of the first 6.5 miles of the Big Lost River below the Sawtooth National Forest boundary, 5.7 miles are on public land. The remainder of the Big Lost River through the Resource Area is privately owned, with the exception of approximately 2.7 miles of fragmented and scattered stream segments. These isolated parcels are difficult to effectively manage. Thus, management emphasis is focused on the resident trout fishery in the upper 5.7 miles.

The Thousand Springs Creek area is unique, being comprised of an extensive wetlands with a spring-fed stream. Approximately 2.65 miles of stream are on public land above the confluence with the Big Lost River, and more is being acquired through land exchanges and purchase. This stream currently contains a good population of rainbow trout and brook trout.

Nine minor tributary drainages feed the upper Big Lost River on public land: Deep Creek, Twin Bridges Creek, Lake Creek, Garden Creek, Bady Creek, Pinto Creek, Bartlett Creek, Rock Creek, and Talman Creek. During base flow conditions in the late summer, the surface flow at the mouth of these streams is reduced or completely dewatered. As the result of low flows and poor riparian conditions due to adjacent land use activities, the fishery condition in these streams is poor. Although these streams have little fisheries potential, all contribute to sedimentation in the Big Lost River.

The upper portion of the Big Lost River is relatively straight with very little meandering. Most of the stream is shallow, fast-flowing riffle-type habitat with limited pool development. The few pools that are present are behind large boulders and the occasional debris jam. The pool:riffle ratio ranges from 10:90 to as high as 30:70 and appears to improve as the river moves downstream. Spawning habitat for resident trout is minimal in this section of river and is the most limiting factor for trout production in this section of river.

Overall, the existing fishery condition on this 5.7 miles of stream is rated as fair to good with a moderate to high fishery improvement potential. Recent surveys by the IDFG indicate a fair population of resident trout. However, the last several years of fishery data suggest that this section of river is not responding to the special management regulations in place, and further analysis is needed.

Thousand Springs Creek: Thousand Springs Creek originates from numerous small springs on private land and flows approximately 14 miles in a southeasterly direction, where it enters the Big Lost River approximately 7 miles above Mackay Reservoir. Approximately 2.65 miles of this stream are presently on public land. However, negotiations with the existing landowners are taking place to try and acquire more of this unique environment and place it under BLM management. The entire course of Thousand Springs Creek is a unique wetland unlike any other in the Challis and Lemhi Resource Areas.

There are essentially two separate fish populations in Thousands Springs. The stream flows above ground from the source downstream approximately 5 miles where it sinks and re-emerges a short distance downstream. The upper area has only rainbow trout. All of the known spawning habitat in the upper reach occurs on private land within 200 yards of the spring source, and 90% of all the fish occur in the first 1.0 mile of stream below the source. Thousand Springs Creek re-emerges approximately 4.5 miles above its confluence with the Big Lost River where it is locally known as Whiskey Springs. Suitable spawning habitat is available in the two miles of stream above the confluence with the Big Lost River. This lower section is a series of pools and riffles with a gravelly substrate, as opposed to the upper area which is heavily silted and shallow. The lower reach contains primarily brook trout and a few rainbow trout.

Mackay Reservoir: Mackay Dam was constructed in 1917 and its source of water is the Big Lost River. The reservoir has a surface area of 1,341 acres and a full capacity of 45,050 acre-feet. When filled to the spillway elevation, it has a maximum depth of 65 feet.

The reservoir is stocked with rainbow trout and kokanee salmon and provides a good put-and-take fishery. It also has the reputation of being one of the best ice fishing lakes in the region. The Big Lost River, Warm Spring Creek, and Parsons Creek are vital to these fish as spawning and nursery areas.

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Appendix C: Fisheries

Item 6: Anadromous and Resident Fish Life Histories and Habitat Requirements

Anadromous Fish Species

The general life history for all anadromous species in the upper Salmon River is similar (see *Table C-1*). Young fish are spawned in the tributaries and reared in their natal waters for 1 to 3 years before migrating back to the Pacific Ocean in April and May. After maturing for 1 to 3 years in the ocean, the adults swim up to 850 miles to return to their natal streams to spawn and complete their life cycle.

Chinook salmon in the upper Salmon River are considered "spring" or "summer" stocks depending on the time they leave the ocean and enter the Columbia River. Spring chinook destined for the upper Salmon River enter the Columbia River during March through May, arrive in the Challis area in June and July, and spawn in August to September. Historically, the runs were comprised of exceptionally large 4 and 5 year old fish (Bjornn *et. al.* 1960). The eggs incubate in the gravel until December, with fry emerging in February and March. Juvenile rearing extends until the spring (March and April) of the second year when the fish are about 4 to 5 inches long (BPA 1991). Summer chinook enter the Columbia River in late May, June, and early July, arrive in the mainstem Salmon River and lower East Fork Salmon River in mid-July to August, and spawn in September and early October. Spring chinook tend to spawn in smaller tributaries and the East Fork Salmon River, while summer chinook tend to spawn entirely in the mainstem Salmon River, the East Fork Salmon River, and the Pahsimeroi River.

Steelhead rainbow trout of the upper Salmon River and its tributaries are termed "summer" steelhead because they enter the Columbia River in June through August. Arrival in the Challis area is not until the following spring, after the fish have overwintered lower in the main Salmon River, usually near the town of North Fork, Idaho. Steelhead spawning occurs in April and May. Fry emerge from redds in early July and rear the rest of the summer in their natal streams. When water temperatures cool in September and October, the young fish either overwinter in their natal streams, if adequate habitat is available, or migrate downstream to the Salmon River to overwinter. The following spring many of the fry will smolt and migrate to the ocean. Those that have not sufficiently matured will migrate back up a tributary and spend another year before migrating to the ocean. Approximately 80% of the Salmon River steelhead rainbow trout will remain in the ocean for one year, while the remaining 20% will spend two years in the ocean before returning to the Salmon River to spawn.

Sockeye salmon migrate through the Resource Area in mid-July and August and spawn in Redfish Lake in September and October. The smolts are reared in Redfish Lake after hatching and outmigrate two years later, moving down the Salmon River to the ocean during high spring flows (April through May).

Table C-1: Anadromous Fish Species Life Histories and Habitat Requirements

Life Cycle/Habitat	**Spring Chinook**	**Summer Chinook**	**Steelhead Trout**	**Sockeye Salmon**
adult fish age at maturity (years)	mostly 4 and 5 some 3	3 to 5	mostly 4 and 5	mostly 4 and 5
time in ocean (years)	1 to 3	1 to 3	1 to 2	1 to 3
return migration to Upper Salmon River	June to July	mid-July to August	Oct. to May	mid-July to August
spawning	August to early September	September to early October	April to mid-June	August to September*
preferred size of spawning gravels (inches)	3 to 6	3 to 6	1/2 to 4	n/a*
redd size	16 square yards	16 square yards	6.5 square yards	n/a*
egg incubation, hatching, and emergence	August to March	September to April	April to mid-July	n/a*
young fish rearing - time in fresh water (years)	1	1	mostly 2 some 1 and 3	1 or 2
out-migration to ocean	majority in April and May	majority in April and May	majority in April and May	most in May
food habits	Young chinook and steelhead eat mostly aquatic macroinvertebrates and terrestrial insects.			Young sockeye live only in Redfish Lake (outside the Challis Resource Area) and feed on plankton.

Sources: Bell 1973; Bjornn, *et. al.* 1968. Bruner 1951; Orcutt, *et. al.* 1968; White and Cochnauer 1975; and Parkhurst 1950.

*Sockeye salmon migrate through waters within the Challis Resource Area boundary, but do not spawn or rear young fish in RA waters.

Resident Fish Species

The waters of the upper Salmon River and its tributaries are used by several economically important resident fish species for movement, spawning and rearing. All phases of these species' life histories are spent in these waters, as opposed to anadromous fish which migrate to the ocean for a part of their lives. Bull trout, westslope cutthroat trout, and rainbow trout are discussed further in this section. *Table C-2* describes the general life histories and habitat requirements for rainbow trout, westslope cutthroat trout, brook trout, bull trout, and mountain whitefish.

Bull trout are found throughout the Salmon River drainage, as well as portions of the Big Lost River and Little Lost River drainages. However, although bull trout may be present in these river systems, their distribution is highly disjunct, primarily as a result of diversions or other artificial obstructions which adversely affect distribution and abundance. Bull trout populations are generally only present in upper stream reaches of tributaries of the Salmon River (see *Appendix C, Item 1: Game Fish Species Distribution*). Bull trout spawn in the fall in spring areas or areas of clean gravel and cold water. Eggs incubate through the fall, and fry and juvenile rearing occurs in natal streams. Adults move from stream to stream, if possible, in their search for spawning and rearing areas. Where these fish occur, the streams are used for spawning, rearing, and migration. Important habitat requirements for these fish, as defined in the *State of Idaho Bull Trout Conservation Plan* (Batt 1996), include good bank and channel stability, unsedimented substrate, good cover, temperatures below 59 °F, and uninterrupted migration corridors. If any of these factors are compromised, then the ability of this species to survive in its habitat is adversely affected.

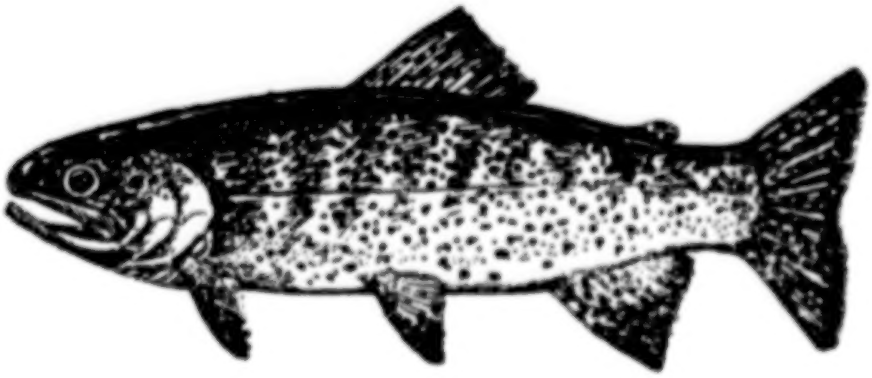
Westslope cutthroat trout are found throughout the Salmon River drainage, either naturally or as hatchery plants, and are sought after as sport fish. Cutthroat trout populations are highly disjunct, for the same reasons bull trout populations are disjunct; the two species are often found concurrently within the same stream. Westslope cutthroat trout habitat requirements are approximately the same as for the bull trout, although they do not need extremely cold and high quality waters to survive. Cutthroat trout spawn in the spring, in clean gravel areas and during spring high flows, with incubation occurring over the summer months. Rearing of emergent fry occurs in the natal stream with adults moving less than bull trout, although some movement does occur between systems.

Rainbow trout follow a similar pattern as cutthroat trout, although they do not require as high quality habitat as bull trout or cutthroat trout. They appear able to withstand higher temperatures and sediment loads. Rainbow trout spawn in the spring, in clean gravel areas and during spring high flows, with incubation occurring over the summer months. Fry emerge from redds in early July and rear the rest of the summer in their natal streams. When water temperatures cool in September and October, the young fish either overwinter in the natal streams, if adequate habitat is available, or migrate downstream to the Salmon River to overwinter. They will move back into tributary streams as conditions permit. Many steelhead rainbow trout (see "Anadromous Fish Species" above) will remain in the Salmon River drainage as resident fish and live out their lives without migration to the sea.

Table C-2: Resident Fish Species Life Histories and Habitat Requirements

Life Cycle/Habitat	Rainbow Trout	Westslope Cutthroat Trout	Brook Trout	Bull Trout	Mountain Whitefish
Spawning	April to June	May to June	Sept. to Nov.	Sept. to October	October to January
Egg Incubation, Hatching, and Emergence	April to July	May to July	Sept. to April	Sept. to April	October to early May
Age at Maturity	3 to 4 years	3 to 4 years	3 to 4 years	4 to 6 years	3 to 4 years
Preferred Size of Spawning Gravels	1/4 to 1-1/2 inches				Whitefish broadcast spawn over gravel and cobble bottoms.
Food Habits	All trout fry initially feed on zooplankton and very small aquatic macroinvertebrates. Their diet gradually changes to progressively larger insects, aquatic macroinvertebrates, and crustaceans. As they grow larger, rainbow and cutthroat trout consume some small fish. Bull trout become very predaceous on small fish and anadromous fish eggs during spawning.				Whitefish are bottom feeders, eating primarily aquatic macroinvertebrates. They will also take small terrestrial insects on the surface and occasionally even a small fish.

Sources: Bell 1973; Bjornn, *et. al.* 1968; Bruner 1951; Orcutt, *et. al.* 1968; and White and Cochnauer 1975.



Westslope cutthroat trout

Appendix C: Fisheries

Item 7: Stream Characteristics of Surveyed Fisheries Streams of the Challis RA

Stream	% Gradient	Average Width (feet)	Average Riffle Depth (inches)	Average Pool Depth (inches)	Pool: Riffle Ratio	Pool Quality		Spawning Gravels (sq. yds.)		Surface Fines (1995-1996 data)	Shade[1]	Low Bank Cover[1]	Stream-bank Stability[1]	Channel Stability[1]	In-stream Cover[1]
						Classes 1, 2, 3	Classes 4, 5	Good	Marginal						
Salmon River	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Allison Cr.	7.4	6	6	9.5	15:85	8%	92%	0	64.5	>20%	F	G/F	F	G/F	G/F
McKim Cr.	6.8	11	9	18.0	36:64	23%	77%	45.0	19.0	>20%	F	G/F	G	G/F	G
Morgan Cr.	2.2	15	6	20.0	58:42	38%	62%	60.0	217.0	15.4%	F/P	G/F	E	G	G/F
Challis Cr.	1.5	17	8	–	20:80	–	–	1,444	11,435	–	F/G	G/F	F	G/F	–
Bayhorse Cr.	5.0	13	10	–	36:64	–	–	384	688	5.1%	G	G	G/E	G	–
Squaw Cr.	1.5	24	10	–	33:67	–	–	3,244	10,435	13.9%	F/G	F/G	G/F	G/F	–
Thompson Cr.	2.2	19	10	–	20:80			1,244	3,168	14.8%	G	G	F	F	–
L. Pahsimeroi R.	0.9	–	–	–	–	–	–	–	–	–	–	–	–	–	–
U. Pahsimeroi R.	2.0	18.3	15	24.0	42:48	48%	52%	0.0	80.0	18.3%	F/P	G/F	F/P	G/F	G/F
Big Cr.	2.4	17	9	14	37:63	15%	85%	0.0	0.0	<20%	G/F	G/F	G/F[2]	E/G	G/F
Burnt Cr.	1.9	6	5	13.0	44:56	9%	91%	48	57	27.7%	P	F/P	F/G	F/P	P
Goldburg Cr.	1.5	12.9	10	18.4	37:63	100%	0%	10.3	0.0	>20%	F	E/G	G/F	F	F
Mahogany Cr.	3.7	6	5	14.0	56:44	15%	85%	18.5	27.8	>20%	F/P	F	F	F	F
L. Morgan Cr.	5.0	13	9	15.0	40:60	13%	87%	73.0	19.0	>20%	G	G	G/F[2]	G	G
Patterson Cr.	1.7	18	10	16.0	50:50	12%	88%	0.0	0.0	<20%	F	G	G	E/G	G/F
Summit Cr. - (Little Lost R.)	0.5	14.8	10	2.2	50:50	100%	0%	–	abundant	<20%	E	E	E	E	E

Stream	% Gradient	Average Width (feet)	Average Riffle Depth (inches)	Average Pool Depth (inches)	Pool: Riffle Ratio	Pool Quality		Spawning Gravels (sq. yds.)		Surface Fines (1995-1996 data)	Shade[1]	Low Bank Cover[1]	Stream-bank Stability[1]	Channel Stability[1]	In-stream Cover[1]
						Classes 1, 2, 3	Classes 4, 5	Good	Marginal						
East Fork Salmon River	—	—	—	—	—	—	—	—	—	>20%	<20%	G	F/G	G	G
Herd Cr.	1.2	19	14"	6"	26:74	—	—	9,117	20,888	17.8%	33%	G[2]	F/G[3]	G/F[2]	G[2]
Lake Cr.	4.2	7	6"	3"	28:72	—	—	65	435	30.2%	80%	G	G	G	G
Big Lake Cr.	4.7	7	9"	2.5"	20:80	—	—	1,075	1,368	<20%	70%	G	G	G	G
Big Boulder Cr.	4.5	16	13"	5"	28:72	—	—	20	126	<20%	60%	G	G	G	G
Little Boulder Cr.	5.0	19	14"	3.5"	32:68	—	—	29	281	<20%	85%	G	G	G	G
Road Cr.	—	—	—	—	—	—	—	0	unk.	36.2%	<20%	F	G	F/P	F/P

Sources: Challis Unit Resource Analysis, Volume 2, Fisheries Section; Summer, 1994 stream surveys of the Challis RA; and Summary of 1997 Field Inventory - updated to reflect monitoring and condition assessments from 1993 through 1997.

[1] E = Excellent; G = Good; F = Fair; P = Poor
[2] bank stability, channel stability, bank cover, and instream cover are all fair to poor on private land. Along Herd Creek, streambank stability is good on public lands and fair on private lands
[3] Streambank stability along Big Creek and Little Morgan Creek in the Upper Pahsimeroi River is good in the upper section and fair in the lower section

[a] column data are average depth (inches)
[b] column data are maximum pool depth (feet)

Appendix C: Fisheries

Item 8: Irrigation Diversion Structures

Within the Challis Resource Area there are at least 21 screened and 43 unscreened water diversion structures for agricultural purposes on anadromous and resident fisheries streams. These diversions are in direct conflict with Resource Area fishery management goals and objectives for the following reasons: (a) many are unscreened, allowing fish to be diverted into ditches and canals where they eventually perish; (b) many diversions completely dewater sections of a stream for several weeks or months out of the year, making anadromous fish migration in and out of some streams impossible and providing only a transitory fish population in these sections; (c) reduced flows below diversions reduce available fish habitat, degrade other habitat features, and increase water temperature above optimal levels; and (d) the numerous screened diversions can significantly slow down the migration of anadromous smolts, reducing their chance of successfully reaching the ocean.

The BLM is presently coordinating with the Idaho Department of Fish and Game, Bonneville Power Administration, and National Marine Fisheries Service to delineate all diversions on BLM public lands and to prioritize a construction program for screening all unscreened diversions and replacing existing screens that are in poor condition or otherwise inoperable. The BLM needs to coordinate with the Idaho Department of Water Resources in a program to gate all diversions so that only the legal water right is diverted, retaining adequate instream flows for fish and wildlife values. Instream flow rights need to be filed for on all important fishery streams in the Resource Area.

Many irrigation diversions are present along the mainstem Salmon River and nearly all of its tributaries in the Challis Resource Area. *Table C-3* lists the number of known diversions on important fishery streams and rivers on BLM public lands in the Challis Resource Area, and their relative impact on the flow at the stream's mouth. (**Note:** Streams not listed have no known diversions on Challis RA public lands. Diversions located on private and U.S. Forest Service lands are not identified in *Table C-3*, although those diversions create the same negative effects on fish and aquatic habitat discussed in this section.) The location of these structures and the relative amount each diverts are presently being researched. During years of extremely low flows, many diversion structures extend across the entire Salmon River, although none prevent anadromous fish migration on the river.

Dewatering of streams for agricultural purposes is widespread in the tributaries of the mainstem Salmon River. The irrigation demand is at its peak when stream flows are at their lowest. This situation generally eliminates fish migration into and out of most tributaries, while the reduced flows decrease the overall carrying capacity and associated salmonid production in most of these tributaries and the main Salmon River. Several stream sections on public land are totally dewatered for irrigation, eliminating all fish and aquatic life for several months out of the year. Other streams also have the potential to be completely dewatered, depending on the annual precipitation and surface water available in a given year.

Water diversions have six negative impacts on fish: (1) loss of water results in a direct loss of habitat; (2) low flows degrade essential habitat features for all aquatic life; (3) water flow reductions cause increases in water temperature; (4) fish (especially outmigrating steelhead trout and chinook salmon smolts) are killed when stranded in irrigation ditches and fields as the result of unscreened diversions; (5) diversion structures and/or dewatering retard or prevent upstream migration of anadromous fish; and (6) the numerous screened diversions can significantly slow down the outmigration of anadromous smolts, reducing their chance of successfully completing the journey.

Table C-3: Irrigation Diversion Structures on Challis RA Public Lands

Drainage/Stream	# Screened	#Unscreened	Status at Mouth
Salmon River	11	3	n/a
Bayhorse Creek	0	2	reduced flow
Challis Creek	0	1	reduced flow
Eddy Creek	0	1	dry
Cow Creek	0	2	reduced flow
Lyon Creek	0	2	reduced flow
McKim Creek	0	1	reduced flow
Morgan Creek	0	2	dry
Squaw Creek	0	1	reduced flow
Pahsimeroi River	n/a/	n/a	n/a
Little Morgan Creek	0	1	dry
Tater Creek	0	1	dry
Morse Creek	0	2	dry
Falls Creek	0	2	dry
Patterson Creek	0	3	dry
Big Creek	0	2	dry
Ditch Creek	0	1	dry
Goldburg Creek	0	unknown	reduced flow
Big Gulch Creek	0	unknown	reduced flow
Donkey Creek	0	1	dry
Upper Pahsimeroi River	0	1	dry
Mahogany Creek	0	1	reduced flow
Sulphur Creek	0	1	dry
Trail Creek	0	1	dry
Lawson Creek	0	1	dry
East Fork Salmon River	6	2	reduced flow
McDonald Creek	0	1	dry
Fox Creek	0	1	dry
Herd Creek	1	0	reduced flow
Big Boulder Creek	2	0	reduced flow
Little Boulder Creek	0	1	reduced flow
Big Lake Creek	1	1	reduced flow
Road Creek	0	4	reduced flow

Appendix D: Land Tenure and Access

Item 1: Withdrawal Status of Campgrounds and Recreation Sites*

Site Description	Site Location		Acreage
Mackay Reservoir	T. 7N.,R.23E.;	Sec. 1: SWSW	40.00
		Sec. 2: SESE	40.00
Black Daisy Recreation Site[1]	T. 7N.,R.23E.;	Sec.11: SESE	40.00
Pinto Creek Rec. Site (Garden Creek)	T. 8N.,R.21E.;	Sec.30: Lot 2	51.69
Upper East Fork Campground (Little Boulder Creek)	T. 9N.,R.17E.;	Sec.22: SESW	40.00
		Sec.27: NWSW	40.00
		Sec.28: SWSE	40.00
Fox Creek Campground[1]	T. 9N.,R.18E.;	Sec. 3: Lot 3	39.39
		Lot 4	39.00
Lake Creek Picnic Site	T. 9N.,R.19E.;	Sec.23: SESE	40.00
Ziegler's Hole Recreation Site[1]	T.10N.,R.18E.;	Sec.24: SESW	40.00
Jimmy Smith Lake Campground	T.10N.,R.18R.;	Sec.30: Lot 4	38.19
Clayton Ranger Station Campground[1]	T.11N.,R.17E.;	Sec.29: Lot 11	37.30
		Sec.30: Lot 10	37.10
East Fork Recreation Site	T.11N.,R.18E.;	Sec.22: Lot 5	29.39
Birch Creek Recreation Site[1]	T.11N.,R.18E.;	Sec.22: Lot 8	38.43
Spud Creek Rec. Site[1]	T.11N.,R.18E.;	Sec.22: Lot 11	25.89
		Sec.27: Lot 1	33.65
		Lot 2	0.92
		Sec.28: Lot 2	45.26
		Lot 3	44.05
Summit Creek Rec. Site	T.11N.,R.25E.;	Sec.22: NENE	40.00
		Sec.23: NWNW	40.00
Bayhorse Creek Rec. Site	T.12N.,R.18E.;	Sec. 2: S2SESE	20.00
		Sec.11: N2NENE	20.00

(continued)

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Site Description	**Site Location**			**Acreage**
Deadman Hole Recreation Site	T.12N.,R.19E.;	Sec.19:	Lot 7	28.42
		Sec.30:	Lot 1	32.30
			Lot 2	34.75
			Lot 3	41.38
Wood Creek Recreation Site (Dugway)	T.12N.,R.19E.;	Sec. 6:	Lot 13	26.14
Double Springs Recreation Site[1]	T.12N.,R.23E.;	Sec.31:	Lot 4	34.47
Round Valley Rec. Site (Challis Bridge)	T.13N.,R.19E.;	Sec.10:	Lot 6	15.31
			Lot 7	33.80
Morgan Creek Recreation Site	T.16N.,R.19E.;	Sec.33:	Lot 2	35.10
Mike Ellis Bridge Recreation Site[1]	T.16N.,R.20E.;	Sec.34:	Lot 3	12.10
			Lot 4	24.80
			Lot 7	44.75
		Sec.35:	Lot 1	23.15
Cow Creek Recreation Site[1]	T.16N.,R.21E.;	Sec. 8:	Lot 4	41.71
			Lot 5	46.80
Cronk's Canyon Recreation Site[1]	T.16N.,R.21E.;	Sec. 8:	Lot 8	52.00
		Sec.17:	Lot 1	23.52
	Total			1,450.76

* Includes lands segregated from Homestead Entry, Desert Land Entry, Indian Allotment, Public Sale, and the General Mining Laws.

[1] Recreation site is not developed at present.

Appendix E: Legislation

Item 1: Expanded Description of Legislation Relevant to the Challis RMP

American Antiquities Act of 1906 (P.L. 59-209; 34 Stat. 225; 16 U.S.C. 432, 433). Chronologically and philosophically the basis legislation for the protection and preservation of cultural properties (archaeological and historic, without regard to minimum age) on Federal lands. It provides for permits to authorize scholarly use of properties, for misdemeanor-level penalties to control unauthorized use, and for Presidential designation of outstanding properties as national monuments for long-term preservation.

American Indian Religious Freedom Act of 1978 (P.L. 95-341; 92 Stat. 469; 42 U.S.C. 1996). The Act resolves that is shall be the policy of the United States to protect and preserve for the American Indian, Eskimo, Aleut, and Native Hawaiian the inherent right of freedom to believe, express, and exercise their traditional religions, including but not limited to access to religious sites, use and possession of sacred objects, and freedom to worship through ceremonials and traditional rites.

Archeological and Historic Preservation Act of 1974 (P.L. 93-291; 88 Stat. 174; 16 U.S.C. 470). Amends the Reservoir Salvage Act of 1960 and expands the National Historic Preservation Act of 1966 by authorizing agency funds for survey of archaeological sites and the recovery of significant archaeological materials caused by any alteration of terrain from any Federal action.

Archeological Resources Protection Act of 1979 (P.L. 96-95; 93 Stat. 721; 16 U.S.C. 470aa *et seq.*) as amended. Act provides for felony-level penalties, more severe than those of the American Antiquities Act of 1906, for the unauthorized or attempted unauthorized excavation, removal, damage, alteration, or defacement of any archaeological resource more than 100 years of age, found on public lands or Indian lands. The Act also prohibits the sale, purchase, exchange, transportation, receipt, or offering of any archaeological resource obtained from public lands or Indian lands in violation of any Federal law.

Clean Water Act of 1977. Provides for protection, restoration, or improvement of water quality, including riparian/wetland areas.

Emergency Wetland Resources Act of 1986. Promotes the conservation of riparian/wetland areas by intensifying cooperative efforts among state, private, and Federal interests.

Endangered Species Act of 1973. A Federal law requiring all Federal departments and agencies to conserve species listed by the Secretary of the Interior or Secretary of Commerce as threatened or endangered, to ensure that the continued existence of listed species is not jeopardized and that designated critical habitat of listed species is not destroyed or adversely modified. Requires consultation with the U.S. Fish and Wildlife Service or National Marine Fisheries Service if it is determined that any BLM action may affect a listed species or its habitat.

Executive Order 11593 ("Protection and Enhancement of the Cultural Environment," 36 F.R. 8921, May 13, 1971). This order directs Federal agencies to inventory cultural properties under their jurisdiction, to nominate to the National Register of Historic Places all Federally owned properties that meet the criteria, to use due caution until the inventory and nomination processes are completed, and to assure that Federal plans and programs contribute to the preservation and enhancement of non-Federally owned properties.

Executive Order 11987 of May 1977 (Exotic Organisms). Directs Federal agencies, to the extent permitted by law, to restrict the introduction and/or importation and funding of exotic species into natural ecosystems on the lands they administer. It also encourages state and local governments and private citizens to prevent introduction of exotic species.

Executive Order 11988 of May 1977 (Floodplain Management). A Federal executive order, signed by the President, directing Federal agencies to evaluate the potential effects of their actions on floodplains and to ensure that their planning programs and budget requests take flood hazards and floodplain management into account. Requires Federal agencies to take actions to reduce the risk of floodplain loss, minimize the impacts of floods, and restore and preserve the natural and beneficial values of floodplains.

Executive Order 11989 of May 1977 (Off-road Vehicle Use). A Federal executive order, signed by the President, directing Federal agencies to close areas to off-road vehicle use whenever it is determined that use of ORVs is causing or will cause considerable adverse impact on soil, vegetation, wildlife, wildlife habitat, or certain other resources on public lands.

Executive Order 11990 of May 1977 (Protection of Wetlands). A Federal executive order, signed by the President, directing Federal agencies to minimize the destruction, loss, and degradation of wetlands, and to preserve and enhance the beneficial values of wetlands.

Executive Order 12088 of 1978 (Federal Compliance with Pollution Control Standards). Requires Federal compliance with pollution control laws.

Executive Order 12372 (Intergovernmental Review of Federal Programs). Requires Federal agencies to provide an opportunity for review of Federal programs and activities by other appropriate affected levels of government.

Executive Order 13007 of May 1996 (Indian Sacred Sites) - Directs Federal agencies with responsibility for managing Federal lands to (1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites.

Federal Land Policy and Management Act of 1976 (FLPMA) (P.L. 94-579). A Federal law that establishes public land policy and establishes guidelines for its administration, to provide for the management, protection, development, and enhancement of the public lands. Requires that public lands be managed in a manner that will protect the quality of ecological, environmental, and water resource values, among others, including riparian/wetland areas. Regarding fish and wildlife resources, FLPMA directs that the public lands be managed in a manner that will provide food and habitat for fish and wildlife. FLPMA identifies "fish and wildlife development and utilization" as a principal land use and authorizes designation of ACECs to protect and prevent damage to fish and wildlife and other resources. Section 201(a) provides for the preparation and maintenance of an inventory of public land resources on a continuing basis. Section 401(b)(1) authorizes the use of Range Betterment Funds for the protection, maintenance, rehabilitation, improvement, and management of wildlife habitat.

Federal Regulations: 43 CFR 3809. Locatable mineral development on BLM-managed public lands is subject to the 43 CFR 3809 regulations which are authorized by the Federal Land Policy and Management Act of 1976. Three thresholds of development are recognized: casual use, Notice level, and Plan of Operations level. Casual use level operations include activities which cause no, or minimal, surface disturbances, such as claim staking, work with hand tools, and some underground work. Operations in excess of casual use are required to file a "Notice" to the BLM at least 15 days prior to the start of operations. The BLM does not approve or disapprove a properly submitted Notice, but merely reviews the Notice and informs the miner how to avoid "unnecessary or undue degradation" to public lands and resources. Mining operations which require Plans of Operation instead of Notices are: surface disturbance in excess of five acres, non-casual use operations in special category areas (wild and scenic river corridors, areas designated "closed" to off-road vehicle use, designated wilderness areas administered by the BLM, and ACECs), and non-complying miners operating under a Notice. The filing of a Plan of Operations requires that an environmental assessment be prepared by the BLM prior to the start of mining. Mitigation measures and reclamation bonding are often required as part of the approval of the Plan. All operations are required to prevent unnecessary or undue degradation to the public lands and resources and to abide by all applicable Federal, State, and local laws and regulations.

Fish and Wildlife Coordination Act of 1958. Requires that wildlife conservation be coordinated within water-resource development programs, that possible damage to fish and wildlife resources from work planned in navigable waters and drainages be assessed, and that measures be adopted to prevent such losses or damages. Provides for development and improvement of wildlife and fisheries resources.

Food Security Act of 1986. Provides incentives for riparian/wetland protection and restoration on farmlands.

General Mining Law of 1872. All metallic minerals, such as gold, silver, copper, and certain non-metallic minerals, such as gypsum, talc, and bentonite, on open unappropriated Federal lands, can be obtained by locating and perfecting mining claims under the General Mining Law of 1872, as amended. The location of mining claims, exploration and extraction of locatable minerals, and issuance of mineral patents on open public land is not a discretionary action of the BLM. Federal Regulations at 43 CFR parts 3700 and 3800 were issued to implement this act.

Geothermal Steam Act of 1970. This act authorized the leasing of geothermal resources and associated byproducts on public lands through competitive and noncompetitive leasing systems. This law is implemented by Federal Regulations promulgated at 43 CFR 3200. Leasing of geothermal resources is a discretionary action by the Department of the Interior, and such leases may be subject to any mitigation measures deemed necessary.

Historic Sites Act of 1935 (P.L. 74-292; 49 Stat. 666; 16 U.S.C. 461). Declares national policy to identify and preserve "historic sites, buildings, objects and antiquities" of national significance, providing a foundation for the National Register of Historic Places.

Land and Water Conservation Fund Act of 1964. Establishes a fund to preserve, develop, and assure access to outdoor recreation resources.

Materials Act of 1947. This law authorized discretionary disposal from public land and Federal mineral estate of certain common variety minerals such as sand and gravel, stone, clay, pumice, and volcanic cinders by sale. These mineral materials are sold at fair market value. Free use of these minerals can be permitted for non-commercial use by government and non-profit agencies. Federal Regulations found at 43 CFR 3600 further define this act.

Mineral Leasing Act of 1920. This law removed deposits of coal, oil and gas, sodium, phosphate, and oil shale from disposal under the General Mining Law of 1872 and made such deposits subject to a leasing system. Leasing of minerals under this act is discretionary and the Secretary of the Interior is given broad discretion in granting leases and permits. Federal Regulations at 43 CFR 3100 regulate oil and gas leasing. Regulations at 43 CFR 3500 give specifics for the management of solid leasable minerals other than coal or oil shale.

National Environmental Policy Act (NEPA) of 1969. A Federal act to declare a national policy which will a) encourage productive and enjoyable harmony between man and his environment; b) promote efforts to prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of humanity; c) enrich the understanding of ecological systems and natural resources important to the nation; and d) establish a Council on Environmental Quality.

National Historic Preservation Act of 1966 (P.L. 89-665; 80 Stat. 915; 16 U.S.C. 470), as amended). Extends the policy in the Historic Sites Act to include state and local as well as national significance, expands the National Register of Historic Places, and establishes the Advisory Council on Historic Preservation, State Historic Preservation Officers, and a preservation grants-in-aid program. Directs all Federal agencies to take into account effects of their undertakings (actions and authorizations) on properties included in or eligible for the National Register of Historic Places.

Native American Graves and Repatriation Act of 1990 (P.L. 101-601; 104 Stat. 3048; 25 U.S.C. 3001). Directs Federal agencies and museums on the disposition, inventory, and repatriation of Native American human remains, associated funerary objects, and other cultural items.

Non-commercial Rock Collection. Federal Regulations at 43 CFR 8365.1-5(b)(2) allow for the free collection of reasonable amounts of "rock." Rock includes, but is not limited to, sand, gravel, cobbles, boulders, volcanic cinders, pumice, pumicite, and decomposed granite. This collection may be for personal and non-commercial use only. Collection may be made by hand or with hand tools only. Collectors are required to avoid unnecessary or undue degradation to public lands and associated resources, as defined by 43 CFR 3600.0-5(k).

Public Rangelands Improvement Act (PRIA) of 1978. A Federal law directing improvement of rangeland conditions in accordance with land use planning under FLPMA. PRIA directs development and maintenance of an inventory of range conditions and trends as part of FLPMA's inventory process and provides for establishment of Experimental Stewardship Program areas. PRIA also provides funding for rangeland improvements, which includes providing habitat for wildlife. PRIA requires consultation with State wildlife agencies and other individuals having scientific expertise and special knowledge of wildlife management.

Recreation and Public Purposes Act (R&PP Act). A Federal act authorizing the Secretary of Interior to lease or convey public lands for recreational and other public purposes under specified conditions of states or their political subdivisions, and to non-profit corporations and their associations.

Sikes Act of 1960. Authorizes preparation and implementation of joint BLM-State wildlife agency habitat management plans (HMPs).

Sikes Act of 1974. Provides for the conservation, restoration, and management of species and their habitats in cooperation with state wildlife agencies, including establishment of a hunting and fishing stamp program, with revenues to be spent upon lands on which fees are collected.

Taylor Grazing Act of 1934. A Federal law requiring the Secretary of the Interior to protect, administer, regulate, and improve grazing districts created in accordance with the Act; to regulate the use of grazing districts; to preserve the land and its resources from destruction or unnecessary injury; to provide for the orderly use, improvement, and development of the range; and to provide for cooperation with local stockmen associations, state land officials, and state agencies. Directs the Secretary of the Interior to stop injury to the public lands (including riparian/wetland areas) by preventing overgrazing and soil deterioration.

Water Quality Act of 1987. Establishes a program to manage nonpoint source pollution.

Wild and Scenic Rivers Act of 1968 (PL 90-542, as amended). Directs that selected rivers of the nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geological, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. Resources or values identified as "Outstandingly Remarkable" shall be protected on eligible, suitable, and designated Wild and Scenic River segments.

Wild Free-Roaming Horse and Burro Act of 1971 (PL 92-195). A Federal law providing protection, management, and control of wild free-roaming horses and burros on public lands. This act requires that (1) management activities for wild horses be carried out in consultation with State wildlife agencies in order to protect the natural ecological balance of all wildlife species; and (2) any adjustments in forage allocations take into consideration the needs of all wildlife species.

Appendix F: Livestock Grazing

Item 1: Allotment Summary

Allotment	Class[1]	AUMs[2]	Acres[3]	Category[4]	Season of Use[5]	AMP Date[6]	# Permittees
Allison Cr.	C	532	12,227	M	May 01-Oct 21	11/09/84	4
Hat Cr.	C	1,214	20,374	I	May 10-Oct 28*	10/03/84	2
Morgan Cr.	CH	2,395	48,164	I	May 01-Jan 30*	03/01/72	10
Lawson Cr.	C	1,481	25,278	M	May 01-Oct 16*	11/08/84	5
Lit. Morgan	C	350	6,256	M	May 01-Dec 15*		1
Highway	H	74	1,389	M	May 16-Oct 31		2
Eddy Creek	CH	93	1,866	M	May 01-Nov 15*		1
Trail Cr.	C	277	5,327	M	May 01-Oct 20*		2
Spud Cr.	C	227	6,302	I	May 09-Jul 15	06/02/88	1
Falls Cr.	CH	545	13,485	I	May 01-Nov 15		3
Hamilton	C	60	321	I	May 11-Jul 10	10/18/88	1
Mahogany Cr.	C	113	1,957	M	May 10-Jul 31	02/15/85	1
Patterson Cr.	C	120	1,730	I	May 01-Jun 06	09/23/86	1
Grouse Cr.	CS	2,218	35,564	I	Apr 26-Jan 15		3
Meadow Cr.	C	240	2,809	M	May 27-Jun 26	01/29/85	1
Countyline	C	496	9,751	I	May 05-Jun 15	09/23/86	1
Mill Cr.	CH	155	3,308	M	May 01-Nov 15		1
Big Cr.	CH	396	3,752	I	May 01-Oct 31		1
L. Goldburg	C	196	4,960	I	May 16-Jun 15		1
Bear Cr.	CS	1,301	11,111	M	May 16-Nov 30	06/22/89	2
Pines/Elkhorn	CSH	1,640	19,787	I	May 16-Nov 15		4
Goldburg	CS	517	15,868	M	May 16-Aug 15		2
Donkey Hills	C	1,328	17,442	I	May 16-Oct 31		1
U. Pahsimeroi	C	2,867	23,273	I	Jun 16-Nov 30		1
Rock Cr.	C	162	1,470	M	Jun 01-Oct 15	03/27/87	1
Burnt Cr.	C	858	4,884	I	Jun 16-Sep 30		1
Dry Cr.	C	2,024	14,565	I	Jun 16-Sep 30		2
Summit Cr.	C	1,920	20,218	I	May 21-Oct 31		1
Round Valley	C	290	7,490	M	May 05-Sep 15	06/17/81	3
Garden Cr.	CH	631	22,720	M	May 15-Oct 14	04/24/81	2
Warm Springs[7]	C	4,295	60,173	I	May 01-Jan 15	05/22/81	1
Squaw Cr.	C	264	7,044	M	May 21-Oct 15*	12/03/81	1
Eastfork	C	288	14,761	I	May 21-Jun 10	02/19/82	2
Bayhorse	C	156	9,305	I	May 15-Jul 15	04/21/81	1
Bald Mountain	CH	446	15,951	M	May 10-Oct 15	04/21/81	2
Bradshaw Bas.	C	475	7,493	M	May 16-Jul 15	04/21/81	4
Bradbury Flat	C	414	15,705	I	May 16-Sep 27	12/01/82	3
Mountain Sprgs[7]	C	8,375	81,600	I	May 11-Oct 15	01/15/82	1
Road Cr.	C	[illegible]	7,730	M	May 16-Aug 28	05/20/81	2
Herd Cr.	C	1,035	21,502	I	Jun 16-Oct 31	02/26/75	2
Stanley B. Tr.	C	42	160	C	May 29-Nov 01*	Unsigned	2
Challis Cr.	C	139	4,079	M	May 25-Jun 14	04/21/81	2
Lintz Cr.	C	140	2,440	C	May 15-Oct 15	04/14/80	1
Pennal Gulch	C	94	3,573	I	May 15-Sep 12	01/12/81	1
Spud Cr.	C	236	8,856	M	May 10-Jul 12	04/21/81	1
Thompson Cr.	C	43	5,595	I	May 25-Aug 15	12/19/80	1

Allotment	Class[1]	AUMs[2]	Acres[3]	Category[4]	Season of Use[5]	AMP Date[6]	# Permittees
Pine Cr.	C	153	4,523	M	May 23-Jun 30	09/27/82	1
Sullivan Cr.	CH	57	2,866	C	May 11-Oct 15*	04/21/81	1
French Cr.	C	28	988	C	Jun 01-Aug 15	01/22/82	1
Split Hoof	C	187	8415	M	May 16-Jun 15	09/04/81	1
Arentson Gulch	C	448	6,131	M	May 20-Sep 25	07/09/86	1
Dickey	C	570	5,333	M	May 18-Sep 30	01/27/87	2
Whiskey Spr.	C	280	5,539	I	May 10-Jul 09	03/20/72	1
Mackay	CH	1,497	17,191	I	May 01-Dec 15	08/30/84	6
Asay	C	108	819	C	May 11-Jul 25		1
Woodbury	C	30	80	C	Nov 01-Nov 30		1
Copper Basin	C	1,255	21,259	M	May 15-Oct 26*		9
Boone Creek	CH	714	9,826	I	May 15-Oct 26		5
Wildhorse	CH	2,096	24,642	I	May 07-Oct 10*	10/19/84	8
Sage Creek	C	1,023	5,996	I	May 16-Sep 30		3
Thousand Spr.[7]	C	881	5,670	I	May 01-Dec 25*	10/01/85	1
Willow Creek	C	121	1,439	C	Jun 11-Jul 10		1
Totals		**51,069**	**750,332**				

[1] C=Cattle, H=Horses, S=Sheep.

[2] Active preference in AUMs as of 1991, when the Challis RMP was started.

[3] Acres of BLM public land within the allotment boundary.

[4] Categories: M = maintain, I = improve, C = custodial (see *Glossary* definition: allotment categorization).

[5] Earliest date on allotment to latest date livestock are permitted.

[6] Date AMP was approved by the BLM (for allotments with an AMP).

[7] Data for the Warm Springs, Mountain Springs (San Felipe) and Thousand Springs allotments were updated to reflect a new Ecological Site Inventory completed during the 1994 field season.

* Split season; livestock are not on the allotment for the entire time shown.

Appendix F: Livestock Grazing

Item 2: Range Condition Summary by Allotment

Allotment Name	No.	Categ.[1]	Acres	Poor[2]	Fair[2]	Good[2]	Excel.[2]	Unclass.[2]
Allison Creek	4409	M	12,227	2,893	2,996	6,076	262	0
Hat Creek	4410	I	20,374	7,063	5,767	5,865	0	1,679
Morgan Creek	4411	I	48,164	7,548	23,210	12,795	794	3,817
Lawson Creek	4412	M	25,278	3,806	11,104	9,444	0	924
Little Morgan Creek	4413	M	6,256	0	3,064	2,044	284	864
Highway	4414	M	1,389	0	1,389	0	0	0
Eddy Creek	4415	M	1,866	936	624	0	0	306
Trail Creek	4501	M	5,327	81	1,437	2,381	1,377	51
Spud Creek	4502	I	6,302	53	3,392	1,625	356	876
Falls Creek	4503	I	13,485	5,831	6,466	1,188	0	0
Hamilton	4504	I	321	321	0	0	0	0
Mahogany Creek	4505	M	1,957	0	915	1,042	0	0
Patterson Creek	4506	I	1,730	1,134	79	346	0	171
Grouse Creek	4507	I	35,564	7,923	7,793	18,326	254	1,268
Meadow Creek	4508	M	2,809	292	939	1,408	0	170
County Line	4509	I	9,751	9,751	0	0	0	0
Mill Creek	4510	M	3,308	331	408	1,679	0	890
Big Creek	4511	I	3,752	348	1,505	1,613	0	286
Lower Goldburg	4512	I	4,960	2,117	2,843	0	0	0
Bear Creek	4513	M	11,111	3,501	3,773	2,569	0	1,268
Pines/Elkhorn	4514	I	19,787	1,506	9,987	6,627	95	1,572
Goldburg	4515	M	15,868	2,328	2,120	10,704	0	716
Donkey Hills	4516	I	17,442	6,898	5,471	4,277	0	796
Upper Pahsimeroi	4517	I	23,273	4,181	7,084	11,774	0	234
Rock Creek	4518	M	1,470	0	712	555	203	0
Burnt Creek	4519	I	4,884	110	2,882	989	707	196
Dry Creek	4520	I	14,565	771	4,529	7,375	1,094	796
Summit Creek	4521	I	20,218	0	8,699	6,587	0	4,932
Round Valley	5601	M	7,490	1,972	831	3,754	0	933
Garden Creek	5602	M	22,720	5,996	15,615	1,109	0	0
Warm Springs[3]	5603	I	60,173	14,637	37,448	5,800	0	2,288
Squaw Creek	5604	M	7,044	2,651	1,036	760	0	2,597
East Fork	5605	I	14,761	4,854	7,437	61	0	2,409
Bayhorse	5606	I	9,305	2,827	6,114	364	0	0
Bald Mountain	5607	M	15,951	4,557	4,484	927	0	5,983
Bradshaw Basin	5608	M	7,493	1,413	2,078	271	0	3,731
Bradbury Flat	5609	I	15,705	1,833	6,694	5,301	0	1,877
Mountain Springs[3]	5610	I	81,600	0	4,017	49,050	22,239	6,294
Road Creek	5611	M	7,730	165	1,395	0	0	6,170
Herd Creek	5612	I	21,502	2,138	6,637	7,744	0	4,983
Stanley Basin Trail	5613	C	160	0	0	0	0	160
Challis Creek	5615	M	4,079	1,176	2,903	0	0	0
Lime Creek	5616	C	2,440	370	1,474	596	0	0
Pennal Gulch	5617	I	3,573	0	1,308	1,842	0	423
Spud Creek	5618	M	8,856	2,797	3,568	307	0	2,184

Allotment Name	No.	Categ.[1]	Acres	Poor[2]	Fair[2]	Good[2]	Excel.[2]	Unclass.[2]
Thompson Creek	5619	I	5,595	785	2,119	276	0	2,415
Pine Creek	5621	M	4,523	74	3,337	548	0	564
Sullivan Creek	5622	C	2,866	218	862	202	0	1,584
French Creek	5623	C	988	108	119	0	0	761
Split Hoof	5624	M	8,415	2,759	5,153	0	0	503
Arentson Gulch	5701	M	6,131	0	74	6,057	0	0
Dickey	5702	M	5,333	0	1,502	3,831	0	0
Whiskey Springs	5703	I	5,539	342	2,847	2,350	0	0
Mackay	5704	I	17,191	195	10,885	6,111	0	0
Asay	5705	C	819	0	535	284	0	0
Woodbury	5706	C	80	0	80	0	0	0
Copper Basin	5707	M	21,259	307	4,412	16,540	0	0
Boone Creek	5708	I	9,826	92	4,723	5,011	0	0
Wildhorse	5709	I	24,642	3,089	9,277	12,276	0	0
Sage Creek	5710	I	5,996	0	822	5,174	0	0
Thousand Springs[3]	5712	I	5,670	417	1,600	3,653	0	0
Willow Creek	5713	C	1,439	0	433	1,006	0	0
Other Areas								
Cronk's Canyon	4411a	n/a	1,511	0	213	248	550	500
Morgan Cr BHS Past.	4411b	n/a	3,642	845	2,506	0	0	291
Dry Cr I.F. District	4520	n/a	820	0	795	0	0	25
E/P Unlicensed Use	4599	n/a	1,488	10	68	883	0	527
Mackay Unallot. Areas	5798	n/a	2,543	0	0	0	0	2,543
Malm Gulch Area	5699	n/a	10,340	2,206	2,128	4,110	0	1,896
Bruno Creek	5620	n/a	2,378	77	536	494	0	1,271
Sand Hollow	5698	n/a	5,476	0	0	0	0	5,476
All Other Areas	9999	n/a	12,377	0	0	0	0	12,377
E/P BLM-USFS Admin.	4599	n/a	1,660	0	25	1632	0	3
		Total Acres	**792,567**	**128,633**	**277,278**	**265,861**	**28,215**	**92,580**
		Percent of RA	**100**	**16.2**	**35.0**	**33.5**	**3.6**	**11.7**

[1] Categories: M = maintain, I = improve, C = custodial (see *Glossary* definition: allotment categorization).

[2] Sources: Ecological status inventories of the Challis Planning Unit (1977), the Ellis-Pahsimeroi Planning Unit (1979), and the Mackay Planning Unit (1981).

[3] Data for the Mountain Springs (San Felipe), Warm Springs, and Thousand Springs allotments were updated to reflect a new Ecological Site Inventory completed during the 1994 field season.

Appendix G: Minerals

Item 1: Locatable and Saleable Minerals Site Descriptions and Locations

NOTE: See *Map 30: Locatable Minerals Land Classification* and *Map 37: Saleable Minerals Land Classification* for the location of specific mine sites, mining districts, and pit sites.

Locatable Minerals

P-1 The Ima Mine is located near the town of Patterson and within the only organized mining district (Blue Wing) in the Pahsimeroi Planning Unit. Tungsten was mined from the Ima Mine and associated properties, with minor amounts of molybdenum, silver, copper, and lead. Between 1863 and 1988 production from the Blue Wing Mining District was $21.9 million (USDI Bureau of Mines 1988). The mine has been inoperative since 1958.

P-2 Barite has been extracted from a small open pit mine approximately 8 miles north of the town of Challis. The mine has been inoperative since 1980.

P-3 Opaline material has been extracted from small trenches approximately 12 miles north of the town of Challis. The Blue Opal claims consist of two lode claims, one of which has not had assessment work recorded since 1981.

P-4 The Ellis uranium properties are located near the town of Ellis. Many exploratory holes have been drilled in the past (1973-1981), but no development has occurred. Assessment work has not been recorded on most of the claims since 1982.

C-1 The Thompson Creek area is in the extreme western end of the Challis Planning Unit, north of the Salmon River. It includes lands in the upper Thompson and Bruno Creek drainages. Tungsten has been produced in the past and molybdenum is currently being produced. The Cyprus Thompson Creek Molybdenum Mine is the active property in the area. The Twin Apex Mine adjacent to the Cyprus Thompson Creek Mine produced small quantities of lead and silver in the early 1900s, but has been inoperative for many years. The Tungsten Jim Mine, also a small producer of tungsten, has been inoperative since the 1960s.

C-2 The Kinnikinic area includes all mines and properties in the Kinnikinic drainage and the Clayton area. Commodities produced in the past include lead, silver, and zinc, with byproduct copper and cadmium. At the present time all properties in the area are inoperative. The Clayton Silver Mine was the most recent to close (in the early 1980s).

C-3 The Garden Creek and Bayhorse Creek area properties are in the northern portion of the Bayhorse Mining District. The Garden Creek and Bayhorse (Pacific) mines contain reserves of fluorite, with additional values in silver and lead at the Pacific property. Originally (1870-1890) this area was actively prospected for its silver and lead deposits, with several active mines recording substantial production. In the extreme southern part of the area, the old Riverview Mine and the Turtle Mine produced lead, silver, copper, and a little gold. Currently, there are no active mines.

C-4 The Squaw Creek area contains reserves of lead and silver. Past producers include the Red Bird Mine, the South Butte Mine, and the Saturday Mountain Group. The South Butte Mine and the Saturday Mountain Group have been inoperative since the 1920s. The Red Bird Mine has run intermittently since 1878, with the most recent shutdown in 1976.

C-5 Several prospects are located on Poverty Flat and near the heads of the forks of Lyon and Sink creeks. The major property in this area is the old Silver Bell Mine. It was discovered in 1879 and worked until about 1897. Copper, silver, and lead were produced. Two less important producers were the Mammoth Mine (two miles east of the Silver Bell) and the Henie Hinie Mine (two miles southeast of the Silver Bell). They have been inoperative since the early 1900s.

C-6 Deposits of travertine rock occur in three areas of the Challis Planning Unit. The largest deposit is on the west side of Bradbury Flat and is of chemical grade. Two smaller deposits occur near the mouth of the East Fork of the Salmon River area.

C-7 Nineteen lode claims make up this prospect. Two backhoe trenches on this property expose barite crystals. The property is currently claimed; however, no production other than sampling has occurred.

M-1 Prospect holes dot the countryside in this area. Five abandoned tunnels are located on BLM lands in this area. The tunnels are driven in tactite, showing mineralization in jasperoid bodies. In the early days it appears there were numerous prospectors seeking a mine as prosperous as the nearby Empire Mine, which lies to the southwest on Forest Service lands. Of the five tunnels, the Cossack Tunnel is the only tunnel about which any specific information can be found. The Cossack Tunnel represents an early attempt to cut the downward extensions of the Empire Mine ore shoots. Examination of the dump indicates no significant mineralized rock. Dumps at other tunnels in the area exhibit some mineralization. At one time copper, gold, silver, and tungsten were produced on Forest Service lands that lie adjacent to the southwest.

M-2 Discovery trenches are a common site in this area. Several irregular, small bodies of magnetite crop out in dacite, and float is scattered over the area. The largest body exposed on the surface does not exceed 150 square feet. The prospect may consist of heterogeneously dispersed pods of massive magnetite. No development has taken place on the property.

M-3 The Bartlett Point area was explored from 1988 to 1990 by two separate companies in consecutive years. Test borings were completed by both companies. No active development of the property has been proposed.

M-4 The Lehman Butte area was explored from 1988-1990 by two separate companies in consecutive years. Test boring and sampling trenches were completed by both companies. No development active of the property has been proposed.

Saleable Minerals

PS-1 The West Fork Morgan Creek Community Borrow Pit is located along the Morgan Creek Road near its intersection with the West Fork of Morgan Creek Road approximately 6 miles from State Route 93 South. The site consists of a colluvial slope of a gravelly sandy clay. The material is suitable for common borrow and as surfacing on secondary roads. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

PS-2 The Morgan Creek Community Rip-Rap Pits are located along Morgan Creek Road commencing 3.5 miles from the intersection of Morgan Creek Road and State Route 93 South to a point 5 miles from the intersection. The 5 sites consist of talus slopes of blocky quartzite with rock size ranging from 6 inches to 3 feet. This material is suitable for armoring stream banks. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

PS-3 The Burstead Lane Community Sand and Gravel Pit is located near the mouth of the Pahsimeroi Valley at the intersection of Burstead Lane and the West Side Pahsimeroi Valley Road. The site consists of a river terrace deposit of gravels with intermittent pockets of silty sands. This material is suitable for surfacing secondary roads and common borrow. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

PS-4 The California Ditch Community Borrow Pit is located in the upper portion of the Pahsimeroi Valley approximately 3/4-mile west of Hatch Lane and 1/4-mile southeast of the California Ditch. The site consists of a colluvium deposit of gravelly clay. This material is suitable for lining ponds and ditches and for the surfacing of secondary gravel roads. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

PS-5 The Goldburg Creek Community Gravel Pit is located in the upper portion of the Pahsimeroi Valley near the intersection of Hatch Lane and the West Side Pahsimeroi Valley Road. The site consists of a large stream alluvium deposit of gravel with some sand and silt. This material is suitable as common borrow and for aggregate purposes. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

CS-1 The Challis Creek Community Borrow Pit is located in the northwest portion of Round Valley. The site consists of a talus slope where andesite of the Challis Volcanics weathers to small (1" x 3") tabloid fragments. This material is suitable for use in surfacing gravel roads. Public access is good on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

CS-2 The Bradbury Flat Community Topsoil Pit is located in the northern portion of Bradbury Flat approximately nine miles south of the town of Challis. The site consists of a lens of silty sandy loam that is a portion of a large alluvial fan. This material is suitable for many landscaping applications. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

CS-3 The Spar Canyon Community Rip-Rap Pit is located approximately 3/4-mile northeast of the intersection of the Spar Canyon Road and the East Fork Salmon River Valley Road. The site consists of a talus slope where andesite of the Challis Volcanics weathers to large blocky fragments. This material is suitable for armoring stream banks. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

MS-1 The Lake Creek Community Rip-Rap Pit is located in the southwestern portion of the Thousand Springs Valley. The site consists of a talus slope where basaltic lava of the Challis Volcanics weathers to large blocky fragments. This material is suitable for armoring stream banks. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

MS-2 The Lake Creek Community Shale Pit is located in the southwestern portion of the Thousand Springs Valley. The site consists of a talus slope where basaltic lava of the Challis Volcanics weathers to small tabloid fragments. This material is suitable for use in surfacing gravel roads. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

MS-3 The Pinto Creek Community Shale Pit is located in the southwestern portion of the Thousand Springs Valley. The site consists of a talus slope where argillite of the Copper Basin Formation has been sheared into small irregular flat pieces. This material is suitable for use in surfacing gravel roads. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

MS-4 The Bartlett Point Road Community Topsoil Pit is located in the southwestern portion of the Thousand Springs Valley. The site consists of a swale area containing sandy loam material. This material is suitable for many landscaping applications. Public access is excellent on an improved gravel roadway, and the quantity is somewhat limited.

MS-5 The Chilly Buttes Community Sand and Gravel Pit is located in the central portion of the Thousand Springs Valley. The site consists of a large river terrace deposit of sand and gravel. This material is suitable for common borrow and the production of aggregates. Public access is excellent on an improved gravel roadway, and the quantity is adequate (based on historical use) for the foreseeable future.

Appendix H: Paleontological Resources

Item 1: Paleontology Areas of Special Note

Broken Wagon Locality - Fissure fill material from this locality has produced bone including a partial *Microtis* (vole) skull. It appears this locality could be a productive site for vertebrate paleontological remains.

Challis Creek - Faunal materials collected from this locality represent a variety of identified vertebrate families or species, including the following:

Osteichthyes (bony fish, probably minnow vertebrae)
Aves (bird)
Ochotona princeps (pika)
Sylvilagus (cottontail)
Marmota flaviventris (yellow bellied marmot)
Spermophilus sp. (ground squirrel)
Thomomys sp. (gopher)
Microtis (vole)
Neotoma sp. (packrat)
cf. *Vulpes vulpes* (red fox)
Ovis canadensis (mountain sheep).

Malm Gulch - Malm Gulch is the only area within the Challis Resource Area which is managed specifically for paleontological resources. The Malm Gulch area is designated as an ACEC; petrified forest fossil remains which are of significant paleontological value are a major component requiring special management and recognition in the ACEC. During early studies it was reported that "nearly all the tree trunks preserved are large, and some of them are giants far outranking any now growing in the region..." (Ross 1937). At least six successive levels of forests are present, as demonstrated by stumps of sequoia trees still in growth position (standing). The forest levels are distributed through a sequence of volcanic ash layers 175 feet thick. Each forest level represents a period between eruptions that was long enough for trees to grow to as much as ten feet in diameter before being destroyed by falling volcanic ash. There are also known leaf fossils in the area which are of Middle Oligocene volcanic ash. The presence of these ancient, standing petrified sequoia trunks in the Challis Resource Area indicates that a demonstrably wetter climate (with considerable precipitation) once occurred in the area.

Poison Springs Locality - Poison Springs is the location of a previously recorded archaeological site with an abundance of faunal material. In July, 1988 the site was visited by a group of Idaho State University paleontologists to ascertain its significance as a vertebrate paleontological locale. Results of this visit are unavailable at present.

Appendix I: Vegetation

Item 1: Riparian Species Known or Thought to Occur in the Challis Resource Area

This list is based on collections housed in the Salmon BLM Herbarium, literature review, and professional judgement of Dr. Caryl Elzinga, Challis RA botanist from 1990 to 1993. Nomenclature follows Hitchcock and Cronquist (1973), except graminoids.

SPECIES	FAMILY
Acer glabrum	Aceraceae
Cicuta bulbifera	Apiaceae
Cicuta douglasii	Apiaceae
Sium suave	Apiaceae
Apocynum cannabinum	Apocynaceae
Bidens cernua	Asteraceae
Alnus incana	Betulaceae
Betula glandulosa	Betulaceae
Mertensia ciliata	Boraginaceae
Myosotis laxa	Boraginaceae
Barbarea orthocerus	Brassicaceae
Lonicera ciliosa	Caprifoliaceae
Cerastium vulgatum	Caryophyllaceae
Chenopodium fremontii	Chenopodiaceae
Chenopodium rubrum	Chenopodiaceae
Chenopodium gluacum	Chenopodiaceae
Kochia scoparia	Chenopodiaceae
Salicornia rubra	Chenopodiaceae
Achillea millefolia	Compositae
Antennaria rosea	Compositae
Arnica cordifolia	Compositae
Artemisia douglasiana	Compositae
Aster foliaceus	Compositae
Aster hesperinus	Compositae
Centaurea maculosa	Compositae
Cirsium arvense	Compositae
Cirsium undulatum	Compositae
Matricaria chamomilla	Compositae
Senecio debilis	Compositae
Senecio integerrimus	Compositae
Senecio triangularis	Compositae
Senecio hydrophilus	Compositae
Sisyrinchium angustifolium	Compositae
Solidago canadensis	Compositae
Sonchus uliginosus	Compositae
Tancetum vulgare	Compositae
Tragopogon dubious	Compositae
Chrysanthemum leucanthemum	Compositae
Cornus stolonifera	Cornaceae
Cardamine pensylvanica	Cruciferae
Descurainia richardsonii	Cruciferae
Rorippa nasturtium-aquaticum	Cruciferae
Thlaspi arvense	Cruciferae
Juniperus scopularum	Cupressaceae
Carex mertensii	Cyperaceae
Carex lanuginosa	Cyperaceae
Carex canescens	Cyperaceae
Carex simulata	Cyperaceae
Carex leporina	Cyperaceae
Carex aquatilis	Cyperaceae
Carex scirpoidea	Cyperaceae
Carex lenticularis	Cyperaceae
Carex praegracilis	Cyperaceae
Carex lasiocarpa	Cyperaceae
Carex rostrata	Cyperaceae
Carex disperma	Cyperaceae
Carex microptera	Cyperaceae
Carex nebraskensis	Cyperaceae
Carex aurea	Cyperaceae
Eleocharis palustris	Cyperaceae
Kobresia simpliciuscula	Cyperaceae
Scirpus americanus	Cyperaceae
Scirpus microcarpus	Cyperaceae
Scirpus fluviatilis	Cyperaceae
Scirpus validus	Cyperaceae
Scirpus acutas	Cyperaceae
Equisetum hymenale	Equisetaceae
Equisetum palustre	Equisetaceae
Equisetum variegatum	Equisetaceae
Equisetum fluviatile	Equisetaceae
Equisetum laevigatum	Equisetaceae
Pyrola asarifolia	Ericaceae
Astragalus diversifolius	Fabaceae
Glycyrrhiza lepidota	Fabaceae
Medicago lupulina	Fabaceae
Melilotus alba	Fabaceae

SPECIES	FAMILY
Melilotus officinalis	Fabaceae
Trifolium repens	Fabaceae
Vicia sativa	Fabaceae
Corydalis aurea	Fumariaceae
Frasera speciosa	Gentianaceae
Geranium viscosissimum	Geraniaceae
Ribes hudsononianum	Grossulariaceae
Ribes cereum	Grossulariaceae
Ribes aureum	Grossulariaceae
Hippuris vulgaris	Hippuridaceae
Philadelphus lewisii	Hydrangeaceae
Phacelia franklinii	Hydrophyllaceae
Hypericum formosum var. *scouleri*	Hypericaceae
Iris missouriensis	Iridaceae
Juncus nodosus	Juncaceae
Juncus bufonius	Juncaceae
Juncus effusus	Juncaceae
Juncus acuminatus	Juncaceae
Juncus ensifolius var. *montanus*	Juncaceae
Juncus balticus	Juncaceae
Juncus ensifolius	Juncaceae
Juncus longistylis	Juncaceae
Juncus torreyi	Juncaceae
Triglochin maritimum	Juncaginaceae
Triglochin palustre	Juncaginaceae
Agastache urticifolia	Labiatae
Lycopus americana	Lamiaceae
Mentha arvense	Lamiaceae
Mentha spicata	Lamiaceae
Astragalas leptaleus	Leguminosae
Lupinus argenteus	Leguminosae
Oxytropis deflexa	Leguminosae
Thermopsis montana	Leguminosae
Utricularia vulgaris	Lentibulariaceae
Allium brevistylum	Liliaceae
Streptopus amplexifloius	Liliaceae
Streptopus roseus	Liliaceae
Zigadenus elegans	Liliaceae
Linum perenne	Linaceae
Lythrum salicaria	Lythraceae
Epilobium watsonii	Onagraceae
Equisetum arvense	Onagraceae
Corallorhiza mertensiana	Orchidaceae
Habenaria hyperborea	Orchidaceae
Plantago eriopoda	Plantaginaceae
Plantago major	Plantaginaceae
Agropyron repens	Poaceae
Agropyron smithii	Poaceae
Agropyron spicatum	Poaceae
Agropyron inerme	Poaceae
Agropyron desertorum	Poaceae
Agrostis scagra	Poaceae
Agrostsis exarata	Poaceae
Agrostsis alba var. *palustris*	Poaceae
Alopecuris aequalis	Poaceae
Beckmannia syzigachne	Poaceae
Bromus vulagris	Poaceae
Bromus inermis	Poaceae
Calamagrostis neglecta	Poaceae
Calamagrostis canadensis	Poaceae
Catabrosa aquatica	Poaceae
Dactylis glomerata	Poaceae
Deschampsia caespitosa	Poaceae
Deschampsia danthonioides	Poaceae
Echinochloa crusgalli	Poaceae
Elymus cinereus	Poaceae
Festuca rubra	Poaceae
Festuca scabrella	Poaceae
Festuca octoflora	Poaceae
Glyceria grandis	Poaceae
Glyceria borealis	Poaceae
Glyceria occidentalis	Poaceae
Glyceria striata	Poaceae
Glyceria elata	Poaceae
Glyceria paucifolia	Poaceae
Hordeum jubatum	Poaceae
Hordeum brachyantherum	Poaceae
Leersia oryzoides	Poaceae
Muhlenbergia richardsonis	Poaceae
Muhlendbergia asperifolia	Poaceae
Phalaris arundinaceae	Poaceae
Phleum pratense	Poaceae
Phragmites communis	Poaceae
Phyleum alpinum	Poaceae
Poa juncifolia	Poaceae
Poa compressa	Poaceae
Poa pratense	Poaceae
Poa pulustris	Poaceae
Polypogon monspeliensis	Poaceae
Puccinellia distans	Poaceae
Puccinellia pauciflora	Poaceae
Puccinellia lemoni	Poaceae
Spartina gracilis	Poaceae
Phlox kelseyi	Polemoniaceae
Phlox diffusa	Polemoniaceae
Polemonium occidentale	Polemoniaceae
Polygonum bistortes	Polygonaceae
Polygonum agrotisiti	Polygonaceae

SPECIES	FAMILY
Polygonum hydropiper	Polygonaceae
Polygonum lapathifolium	Polygonaceae
Polygonum ramosissimum	Polygonaceae
Polygonum amphigium	Polygonaceae
Polygonum californicum	Polygonaceae
Polygonum amphimbium	Polygonaceae
Polygonum sawatchense	Polygonaceae
Polygonum monspeliensis	Polygonaceae
Polygonum californicum	Polygonaceae
Rumex crispus	Polygonaceae
Rumex paucifolius	Polygonaceae
Rumex occidentalis	Polygonaceae
Rumex paucifolius	Polygonaceae
Sagittaria cuneata	Polygonaceae
Androsace filiformis	Primulaceae
Dodecathon pauciflorum	Primulaceae
Glaux maritima	Primulaceae
Glaux maritimum	Primulaceae
Primula alkalina	Primulaceae
Caltha leptosepala	Rannunculaceae
Actaea rubra	Ranunculaceae
Anemone multifida	Ranunculaceae
Aquilegia formosa	Ranunculaceae
Clematis columbiana	Ranunculaceae
Ranunculus urticifolia	Ranunculaceae
Ranunculus hyperboreus	Ranunculaceae
Ranunculus aquatilis	Ranunculaceae
Ranunculus macouni	Ranunculaceae
Ranunculus scleratus	Ranunculaceae
Ranunculus pennsylvanicus	Ranunculaceae
Ranunculus cymbalaria	Ranunculaceae
Thalictrum occidentale	Ranunculaceae
Amelanchaier alnifolia	Rosaceae
Fragaria virginiana	Rosaceae
Geum macrophyllum	Rosaceae
Geum triflorum	Rosaceae
Geum macrophyllum	Rosaceae
Physocarpus malvaceus	Rosaceae
Potentilla glandulosa	Rosaceae
Potentilla fruiticosa	Rosaceae
Potentilla anserina	Rosaceae
Potentilla gracilis	Rosaceae
Potentilla palustris	Rosaceae
Prunus virginia	Rosaceae
Rosa woodsii	Rosaceae
Rosa woodsii v. *ultramontana*	Rosaceae
Rubus idaeus	Rosaceae
Sorbus scopulina	Rosaceae
Spiraea betulifolia	Rosaceae
Galium aparine	Rubiaceae
Galium triflorum	Rubiaceae

SPECIES	FAMILY
Salix exigua ssp. exigua	Salicaceae
Populus trichocarpa	Salicaceae
Salix bebbiana	Salicaceae
Salix exigua ssp melanopsis	Salicaceae
Salix boothii	Salicaceae
Salix wolfii	Salicaceae
Salix lasiandra	Salicaceae
Salix lasiandra var. *caudata*	Salicaceae
Salix geyeraniana	Salicaceae
Salix planifolia	Salicaceae
Salix lutea	Salicaceae
Parnassia parviflora	Saxifragaceae
Castilleja minuata	Scrophulariaceae
Mimulus guttatus	Scrophulariaceae
Mimulus lewisii	Scrophulariaceae
Phacelia sericea	Scrophulariaceae
Veronica americana	Scrophulariaceae
Veronica serpyllifolia	Scrophulariaceae
Veronica anagallis-aquatica	Scrophulariaceae
Solanum dulcamara	Solanaceae
Sparganium simplex	Sparganiaceae
Sparganium emersum	Sparganiaceae
Typha angustifolia	Typhaceae
Typha latifolia	Typhaceae
Osmorhiza occidentalis	Umbelliferae
Ozmorhiza chilensis	Umbelliferae
Urtica dioica	Urticaceae
Valeriana edulis	Valerianaceae
Viola palustris	Violaceae

Appendix I: Vegetation

Item 2: Habitat Areas Associated with the Alkaline Primrose and Wavy Leaf Thelypody

Calcareous Wetland Species

The alkaline primrose (*Primula alcalina*) has been extensively inventoried by the BLM, Conservation Data Center, and academic botanists. Only three locations of this special status species are known world-wide. Two locations are in the Lemhi Resource Area (which adjoins the Challis Resource Area) and one is in the Challis Resource Area (the Summit Creek ACEC/RNA). All three sites are unusual due to their hydrology, chemistry, and species associates. Each site occurs in the headwaters of spring-fed alkaline streams where flow is relatively constant throughout the year and scouring flood events are rare. The substrate is calcareous clays, and conditions are somewhat fen-like (normally covered with water). The specific habitat requirements of this species facilitates effective inventory, and botanists are relatively certain that nearly all habitat areas have been intensively examined. Because of a checkered land ownership pattern, the Thousand Springs complex is the only potential area of alkaline primrose populations that has not been intensively examined. Areas of potential primrose habitat within the Thousand Springs complex have, however, been examined, with no successful location of this species.

Three other sensitive species occur at the Summit Creek site: *Lomatogonium rotatum* (marsh felwort), *Astragalus diversifolius* (meadow milkvetch), and *Salix candida* (hoary willow). Two other sensitive species, *Astragalus leptaleus* (park milkvetch) and *Carex livida* (livid sedge) were recently located at one of the other alkaline primrose sites in the Lemhi Resource Area, and thus may occur at the Summit Creek site as well. Any of these sensitive species may also occur at Thousand Springs; the inventory is incomplete.

Challis Volcanic Species

Four species often occur together on steep erosive slopes of Challis volcanic weatherings: *Thelypodium repandum* (wavy leaf thelypody), *Astraglus amblytropis* (Challis milkvetch), *Astragalus aquilonius* (Lemhi milkvetch), and *Malacothrix torreyi* (Torrey's malacothrix).

T. repandum and *A. amblytropis* occur only on steep erosive Challis volcanic substrate, and are Challis endemics. Distribution for these two species is the East Fork Salmon River and its tributaries (especially Road Creek, Herd Creek, and Spar Canyon) and along the Salmon River to Ellis. *Astragalus amblytropis* also occurs in the Hat Creek and McKim Creek area, and there is potential for *T. repandum* to occur there as well.

M. torreyi and *A. aquilonius* often occur with the two Challis endemics, but their distribution extends beyond the Challis area. *Malacothrix torreyi* is also found on bentonite substrate in the Lemhi area. *Astragalus aquilonius* is found at the southern end of the Lost River and Lemhi ranges on limestone gravely slopes, as well as in a few drainages near the town of Leadore, Idaho, where the plant was first discovered (hence the common name of Lemhi milkvetch). Within the Challis area, *Astragalus aquilonius* is also found on more gentle slopes, as well as the steep erosive slopes containing the two Challis endemics. The center of distribution of *Astragalus aquilonius* is the Bradbury Flat/Round Valley area, where the plant becomes a regular, although uncommon, member of the range flora.

Appendix J: Water Resources

Item 1: Beneficial Use Classifications for Drainage Segments

Beneficial use classifications for streams in the Big Lost River, Little Lost River, East Fork Salmon River, Pahsimeroi River, and Main Salmon River drainages are shown below. In addition to the classifications listed below, Bruno Creek in the Main Salmon River is identified by the BLM as an "industrial water supply" beneficial use. No streams in the above drainages are classified as an "outstanding resource waters" beneficial use. Listed beneficial uses were either identified by the BLM (shown with an "X") or published in the Idaho Department of Health and Welfare, Division of Environmental Quality, Title 01, Chapter 02, "Water Quality Standards and Wastewater Treatment Requirements," February 1998.

Drainage Big Lost River

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUPPLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
ROCK CREEK		X	X		X		X	X	
LONE CEDAR CREEK			X		X		X	X	
MAHOGANY CREEK		X	X	X	X		X	X	
FRANKLIN CANYON			X		X		X	X	
NAVARRE			X	X	X		X	X	
LEHMAN CREEK			X	X	X		X	X	
BOONE CREEK			X		X		X	X	
GARDEN CREEK		X	X		X		X	X	
GRANT		X	X		X		X	X	
BIG LOST*	D	D	D	D	D	D	D	D	D
CORRAL CREEK		X	X		X		X	X	
SAGE CREEK		X	X		X		X	X	
BRADSHAW CREEK		X	X		X		X	X	
N. FORK SAGE CREEK		X	X		X		X	X	
JONES CREEK			X		X		X	X	
UPPER CEDAR CREEK		X	X		X		X	X	
DEEP CREEK			X		X		X	X	
TWIN BRIDGES CREEK*	X	X	X	X			X	X	
MACKAY RESERVOIR	X	X	X	X	X		X	X	
THOUS. SPRINGS CR.		X	X	X	X		X	X	

* Water Quality Limited Segment as of May 15, 1998 (Draft DEQ Section 303(d) list)
X Beneficial Use Identified by the BLM during 1991 field surveys
D Beneficial Use Designated by the Division of Environmental Quality

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Drainage Little Lost River

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUP-PLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
SUMMIT CREEK *		X	X	X	X		X	X	
DRY CREEK		X	X	X	X		X	X	

Drainage East Fork Salmon River

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUP-PLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
EAST FK. SALMON	D	D	D	D	D	D	D	D	D
HORSE BASIN			X	X	X		X	X	
BEAR CREEK			X	X	X		X	X	
ROAD CREEK*			X	X	X		X	X	
MOSQUITO CREEK			X	X	X		X	X	
HERD CREEK	X	X	X	X	X		X	X	
LAKE CREEK		X	X	X	X		X	X	
MC DONALD CREEK			X	X	X		X	X	
FOX CREEK			X		X		X	X	
PINE CREEK			X	X	X		X	X	
BAKER CREEK			X		X		X	X	
WICKIUP CREEK		X	X	X	X		X	X	
LITTLE BOULDER CR		X	X	X	X		X	X	
BIG BOULDER CREEK	X	X	X	X	X		X	X	
BLUETT CREEK			X		X		X	X	
BIG LAKE CREEK		X	X	X	X		X	X	
JIMMY SMITH CREEK		X	X	X	X		X	X	
CORRAL CREEK			X	X	X		X	X	
MARCO CREEK					X		X	X	

* Water Quality Limited Segment as of May 15, 1998 (Draft DEQ Section 303(d) list)
X Beneficial Use Identified by the BLM during 1991 field surveys
D Beneficial Use Designated by the Division of Environmental Quality

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Drainage Pahsimeroi River

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUPPLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
LITTLE MORGAN CREEK		X	X	X	X		X	X	
PATTERSON CREEK*	X	X	X	X	X		X	X	
MILL CREEK			X		X		X	X	
STINKING CREEK			X		X		X	X	
BIG CREEK*	X	X	X	X	X		X	X	
LONG CREEK		X	X	X	X		X	X	
DAIRY CREEK			X		X		X	X	
SHORT CREEK		X	X	X	X		X	X	
SQUAW CREEK			X		X		X	X	
DONKEY CREEK		X	X	X	X		X	X	
GOLDBURG CREEK		X	X	X	X		X	X	
BURNT CREEK		X	X	X	X		X	X	
ELKHORN CREEK			X		X		X	X	
PAHSIMEROI RIVER*	D	D	D	D	D	D	D	D	D
DOUBLE SPRING			X	X	X		X	X	
MEADOW CREEK			X		X		X	X	
ELBOW CREEK			X		X		X	X	
SULPHUR CREEK			X		X		X	X	
TRAIL CREEK			X		X		X	X	
LAWSON CREEK			X		X		X	X	
MORSE CREEK*	X	X	X	X	X		X	X	

* Water Quality Limited Segment as of May 15, 1998 (Draft DEQ Section 303(d) list)
X Beneficial Use Identified by the BLM during 1991 field surveys
D Beneficial Use Designated by the Division of Environmental Quality

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Drainage Main Salmon River (page 1 of 2)

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUPPLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
MAIN SALMON RIVER*	D	D	D	D	D	D	D	D	D
MCKIM		X	X	X	X		X	X	
ALLISON CREEK			X		X		X	X	
COW CREEK		X	X	X	X		X	X	
SHEEP CREEK			X		X		X	X	
DRY			X	X	X		X	X	
CAMP CREEK			X		X		X	X	
BROKEN WAGON			X		X		X	X	
LONE PINE			X	X	X		X	X	
WARM SPRINGS CR.*	X	X	X	X	X		X	X	
SPUD CREEK			X		X		X	X	
SULLIVAN CREEK			X		X		X	X	
FRENCH CREEK			X		X		X	X	
THOMPSON CREEK		D	D	D	D		D	D	
BRUNO CREEK			X	X	X		X	X	
SQUAW CREEK		D	D	D	D		D	D	
KINNIKINIC CREEK*			X	X	X		X	X	
BIRCH CREEK			X		X		X	X	
SINK CREEK			X	X	X		X	X	
LYON CREEK			X	X	X		X	X	
RATTLESNAKE CREEK			X		X		X	X	
BAYHORSE CREEK			X	X	X		X	X	
CENTENNIAL FLAT			X		X		X	X	

* Water Quality Limited Segment as of May 15, 1998 (Draft DEQ Section 303(d) list)
X Beneficial Use Identified by the BLM during 1991 field surveys
D Beneficial Use Designated by the Division of Environmental Quality

Drainage Main Salmon River (continued - page 2 of 2)

BENEFICIAL USE CLASSIFICATION

SEGMENT	PRIMARY CONTACT RECREATION	SECONDARY CONTACT RECREATION	COLD WATER BIOTA	SALMONID SPAWNING	AGRICULTURAL WATER SUPPLY	DOMESTIC WATER SUPPLY	WILDLIFE HABITAT	AESTHETICS AND HUMAN HEALTH	SPECIAL RESOURCE WATERS
GARDEN CREEK*	X	X	X	X	X	X	X	X	
MILL CREEK			X	X	X		X	X	
JEFF'S CREEK			X		X		X	X	
CHALLIS CREEK*	X	X	X	X	X		X	X	
DARLING CREEK			X	X	X		X	X	
MORGAN CREEK		X	X	X	X		X	X	
W.FK. MORGAN C		X	X	X	X		X	X	
BLUE CREEK			X		X		X	X	
BLOCK CREEK			X		X		X	X	
SAGE CREEK			X		X		X	X	
ELLIS CREEK			X		X		X	X	
LITTLE HAT CREEK			X	X	X		X	X	
BIG HAT CREEK		X	X	X	X		X	X	
PARK CREEK			X	X	X		X	X	

* Water Quality Limited Segment as of May 15, 1990 (Draft DEQ Section 303(d) list)
X Beneficial Use Identified by the BLM during 1991 field surveys
D Beneficial Use Designated by the Division of Environmental Quality

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Appendix J: Water Resources

Item 2: Surface Water Quality Condition and Trend

Water quality in the Challis Resource Area is adversely affected by land use activities occurring in the Resource Area, because land use activities generally disturb the protective soil cover, vegetation, or hydrologic processes to some extent. Most activities are relatively localized, short term, or controllable, and, with properly applied restrictions, usually do not pose a widespread threat to water quality. On a landscape scale, livestock grazing is the most water quality-impairing land use activity occurring in the Resource Area.

In-depth monitoring of water quality indicators and an assessment of their relationship to livestock grazing was conducted in 1993. A variety of parameters have been monitored that either directly or indirectly indicate the status for support of beneficial uses and water quality condition and trend. A summary of the on-going monitoring, analysis, and conclusions of current water quality conditions and trends is presented below for each principal drainage basin within the Resource Area (see *Map 25: Geography and Principal Drainage Basins*).

Main Salmon River:

The BLM currently monitors water quality on seven tributaries that drain into the Main Salmon River. These include Cow Creek, Little Hat Creek, Morgan Creek, West Fork of Morgan Creek, Bayhorse Creek, Squaw Creek, and Thompson Creek. Only water temperature has been monitored in the West Fork of Morgan Creek.

Temperature data indicate that during years of adequate snowpack and rainfall, Bayhorse, West Fork of Morgan and Cow creeks all meet temperature standards (USDA Forest Service and USDI-BLM, February 1995) for chinook salmon migration (<64 °F) and spawning (<60 °F) requirements. Thompson and Little Hat creeks meet the chinook salmon migration standard and come close to meeting chinook salmon spawning requirements, while Squaw and Morgan creeks have been exceeding all standards (USDI - BLM, National Marine Fisheries Service Annual Monitoring Report, 1996). Critical bull trout temperatures, indicated as a 24 hour average, for rearing (53.6 °F, June through August) and spawning (48 °F, after September 15) (IDAPA 16, 1998) can only be assessed through a review of the available daily maximum and daily minimum temperatures. The Hobo thermographs are being re-programmed to provide daily averages from multiple daily readings over a 24-hour time period. Rearing temperatures are generally not being met, while spawning temperatures are being met after September 15. Exceptions are Cow Creek, Bayhorse Creek, and the upper reaches of Little Hat Creek where both standards are being met.

Over the past five years of monitoring, trends indicate that Bayhorse, West Fork of Morgan and Cow creeks are in stable condition. Little Hat Creek has shown some decline. Thompson, Squaw and Morgan creeks show slight improvement, as the number of days exceeding standards have decreased. There are several contributing factors such as roads, private land ownership and land use practices along the Squaw and Morgan Creek drainage that are negatively impacting water quality, but are outside the scope of BLM management.

Sedimentation in the Main Salmon River drainage has been periodically monitored through R1/R4 stream habitat surveys between 1995 and 1997. Six of the seven streams have slight to moderate sediment levels, most of which fall within the desired standard of ≤ 20% (NCASI, Technical Bulletin No. 428, 1984). Sedimentation in Little Hat Creek is well above desired levels, partially due to beaver dams throughout the system. However, it is believed that this stream is not a major contributor of sediment to the Salmon River due to its location high in the watershed.

Biological monitoring assessing aquatic macroinvertebrate populations is considered to be an effective indicator of past water quality trends and current conditions. Interpretation of the health and integrity of the aquatic ecosystem is based on a number of biotic indices and life history characteristics of individual taxa, physical habitat and water chemistry data. Macroinvertebrate community structure and species composition in Cow and Bayhorse creeks indicate good water quality. Squaw and Thompson Creek are fair, with an upward trend in macroinvertebrate quality. Little Hat and Morgan creeks have remained in poor condition, although the percentage of pollution-tolerant species has decreased since 1993 in Morgan Creek and overall data in Little Hat shows improvement, but still is not meeting desired standards (USDI-BLM, National Marine Fisheries Service Annual Monitoring Report, 1996).

Water chemistry sampling is performed to coincide with macroinvertebrate samples. All streams sampled within the Main Salmon River watershed had dissolved oxygen and pH levels within the desired criteria (Vinson 1992) to support cold water biota.

Coliform levels were initially sampled in 1979 and indicate that the majority of tributaries, in addition to the seven the BLM regularly monitors, generally were within State standards for primary (500 coliforms/100 ml at any time) and secondary (200 coliforms/100 ml in more than 10% of samples over a 30 day period) contact recreation (Vinson 1992). At this time, specific trends are unknown since repeated sampling has not been conducted.

East Fork Salmon River:

The BLM currently monitors water quality on ten tributaries that drain into the East Fork Salmon River. These include Big Boulder Creek, Little Boulder Creek, Big Lake Creek, Bear Creek, Horse Basin Creek, Herd Creek, Lake Creek, Pine Creek, Mosquito Creek and Road Creek. Only water temperature has been monitored at Big Boulder Creek, Big Lake Creek and Little Boulder Creek.

Temperature data indicates that during years of adequate snowpack and rainfall, Herd and Lake creeks meet temperature standards (USDA Forest Service and USDI-BLM, February 1995) for chinook salmon migration (<64 °F) and come close to meeting chinook salmon spawning (<60 °F) requirements. Bear and Mosquito creeks meet the chinook salmon migration standard but do not meet spawning requirements. Road Creek and Horse Basin Creek have not been meeting standards on a regular basis and Big Lake Creek did not meet them in 1997. Four streams (Herd, Lake, Bear, and Mosquito) have been displaying fairly good instream water temperatures throughout the summer, while the others show potential for improvement (USDI-BLM, National

Marine Fisheries Service Annual Monitoring Reports, 1994-1996). Critical bull trout temperatures, indicated as a 24-hour average, for rearing (53.6 °F, June through August) and spawning (48 °F, after September 15) (IDAPA 16, 1998) can only be assessed through a review of the available daily maximum and daily minimum temperatures. The Hobo thermographs are being re-programmed to provide daily averages from multiple daily readings over a 24-hour time period. The Road Creek drainage which includes Road, Bear, Mosquito, and Horse Basin creeks, does not contain bull trout and is not considered bull trout habitat. Bull trout rearing standards are generally not being met in Herd or Lake creeks, but spawning standards are being met. Big Lake Creek generally does not meet spawning standards until early October.

Sedimentation has been periodically monitored through R1/R4 stream habitat surveys between 1995 and 1997. The majority of the surveyed streams in the watershed depict evidence of increased sediment levels, most of which do not fall within the desired standard of ≤ 20% (NCASI, Technical Bulletin No. 428, 1984). Only one stream (Herd Creek) met this guideline. Within the Road Creek drainage, most streams have sediment levels that are slightly elevated above the desired standard, particularly in Road Creek.

Biological monitoring assessing aquatic macroinvertebrate populations is considered to be an effective indicator of past water quality trends and current conditions. Interpretation of the health and integrity of the aquatic ecosystem is based on a number of biotic indices and life history characteristics of individual taxa, physical habitat and water chemistry data. Very few desired standards are being met at the various sampled sites within the Road Creek drainage. However, the data are showing improvement over time. Although no standards were met in Lake Creek, several indices were very close and the overall indication is that quality is improving. Herd Creek has remained relatively stable, meeting some, but not all, macroinvertebrate indices, with variations probably due to climatic changes (USDI-BLM, National Marine Fisheries Service Annual Monitoring Report, 1996).

Water chemistry sampling is performed to coincide with macroinvertebrate samples. All streams sampled within the East Fork Salmon River watershed had dissolved oxygen and pH levels within the desired criteria (Vinson 1992) to support cold water biota.

There is no available information on coliform levels in the East Fork Salmon River drainage.

Pahsimeroi River:

The BLM currently monitors water quality on the Pahsimeroi River and eleven tributaries of the Pahsimeroi River. These include Burnt Creek, Big Creek, Donkey Creek, Falls Creek, Little Morgan Creek, Long Creek, Mahogany Creek, Mill Creek, Morse Creek, Patterson Creek, Short Creek and the Upper Pahsimeroi River. Monitoring on several of these streams was recently implemented in 1997, and only water temperature has been monitored in Mill, Falls, Little Morgan, Short, Long, and Morse creeks. Temperature data indicate that during years of adequate snowpack and rainfall, the Upper Pahsimeroi River, Little Morgan Creek and Mahogany Creek meet temperature standards (USDA Forest Service and USDI-BLM, February 1995) for chinook salmon migration (<64 °F) and spawning (<60 °F) requirements. Burnt Creek meets the chinook salmon migration standard and comes close to meeting spawning requirements (USDA Forest Service and USDI-BLM, Pahsimeroi River Watershed Biological Assessment, 1997). Most streams are in good condition, with Burnt Creek and the Upper Pahsimeroi River demonstrating slightly lower temperatures and less fluctuation during the summer months. Critical bull trout temperatures, indicated as a 24-hour average, for rearing (53.6 °F, June through August) and spawning (48 °F, after September 15) (IDAPA 16, 1998) can only be assessed through a review of the available daily maximum and daily minimum temperatures. The Hobo thermographs are being reprogrammed to provide daily averages from multiple daily readings over a 24-hour time period. The bull trout streams, consisting of Burnt, Little Morgan, Morse, Falls, Patterson, Big, Ditch, Mahogany, Tater, and Big Gulch creeks and the Pahsimeroi River, are generally meeting all bull trout temperature standards. The exceptions are lower Burnt Creek and Little Morgan creeks, which meet only the spawning standard, and the lower Pahsimeroi River which meets the spawning standard later than desired (in early October).

Sedimentation has been periodically monitored through R1/R4 stream habitat surveys between 1995 and 1997. Of the four streams surveyed, one (Donkey Creek) stream displayed slightly elevated sediment levels, one (Burnt Creek) was borderline with the desired standard of ≤20% (NCASI, Technical Bulletin No. 428, 1984) and two streams (Mahogany Creek and Upper Pahsimeroi River) met the criteria. It is believed that only slight amounts of suspended sediment reach the Pahsimeroi River from the other tributaries (USDA Forest Service and USDI-BLM, Pahsimeroi River Watershed Biological Assessment, 1997).

Biological monitoring assessing aquatic macroinvertebrate populations is considered to be an effective indicator of past water quality trends and current conditions. Interpretation of the health and integrity of the aquatic ecosystem is based on a number of biotic indices and life history characteristics of individual taxa, physical habitat and water chemistry data. Macroinvertebrate community structure and species composition in Mahogany Creek indicates good water quality. Burnt Creek data indicate that the stream is in fair to poor condition, with a declining trend in macroinvertebrate quality. Macroinvertebrate data on the remaining creeks sampled in 1997 (Big Creek, Donkey Creek, and the Upper Pahsimeroi River) have not yet been analyzed.

Water chemistry sampling is performed to coincide with macroinvertebrate samples. All streams sampled within the Pahsimeroi watershed had dissolved oxygen and pH levels within the desired criteria (Vinson 1992) to support cold water biota.

Coliform levels were initially sampled in 1979 and indicate that the majority of streams, in addition to the twelve the BLM regularly monitors, are within State standards for primary (500 coliforms/100 ml at any time) and secondary (200 coliforms/100 ml in more than 10% of samples over a 30 day period) contact recreation (Vinson 1992). At this time, specific trends are unknown, since repeated sampling has not been conducted.

Big Lost River:

At this time the BLM has little information about the Big Lost River Watershed, as no monitoring is conducted. It is believed that most streams meet temperature and pH requirements for cold water biota. The Big Lost River system is not considered anadromous or bull trout habitat. Through observation and professional judgement, the majority of streams appear to fall into a functional-at-risk category (see **Volume 1**, *Attachment 1: Riparian-Wetland Area Function Classification*, pp. 101-102). Extrapolating from these conclusions, overall water quality would seem to be in fair condition with the potential for improvement.

Little Lost River:

The BLM currently has limited information about this watershed, since monitoring occurs on only two streams. The Little Lost River system is not considered anadromous habitat. Critical bull trout temperatures, indicated as a 24-hour average, for rearing (53.6 °F, June through August) and spawning (48 °F, after September 15) (IDAPA 16, 1998) can only be assessed through a review of the available daily maximum and daily minimum temperatures. The Hobo thermographs are being re-programmed to provide daily averages from multiple daily readings over a 24-hour time period. Temperature has been monitored on Summit Creek since 1993 and intermittently on Dry Creek since 1994. Temperatures are slightly elevated in Summit Creek and very close to meeting desired standards for cold water biota in Dry Creek (USDI-BLM, National Marine Fisheries Service Annual Monitoring Report, 1997).

Coliform levels were initially sampled in 1979 at several locations along Summit Creek and were within State standards for primary (500 coliforms/100 ml at any time) and secondary (200 coliforms/100 ml in more than 10% of samples over a 30 day period) contact recreation (Vinson 1992).

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Appendix K: Wild Horses and Burros

Item 1: Relative Percent Density of Discerned Contents from Wild Horse Fecal Samples

Tentative Identification	**Spring**	**Summer**	**Fall**	**Winter**	
Grasses and Grasslike Plants					
Western wheatgrass (*Agropyron smithii*)	0.31	0.50	0.00	0.57	
Bluebunch wheatgrass (*Agropyron spicatum*)	52.87	39.63	77.90	43.20	
Brome (*Bromus*)	0.00	0.20	0.00	0.00	
Reedgrass (*Calamagrostis*)	0.62	1.00	0.35	0.11	
Sedge (*Carex*)	1.74	1.93	2.45	0.46	
Wildrye (*Elymus*)	0.00	1.11	0.00	0.00	
Idaho fescue (*Festuca idahoensis*)	5.22	18.72	0.21	1.16	
Junegrass (*Keoleria cristata*)	3.18	10.09	0.94	5.86	
Indian ricegrass (*Oryzopsis hymenoides*)	2.20	2.77	0.14	1.16	
Bluegrass (*Poa*)	5.10	5.29	0.87	3.70	
Squirreltail (*Sitanion*)	0.51	1.61	0.00	1.63	
Dropseed (*Sporobolus*)	0.51	0.40	0.14	0.23	
Needlegrass (*Stipa*)	0.62	5.75	0.21	0.69	
Unknown sedge	0.10	1.61	0.14	0.00	
Unknown grass	0.00	0.10	0.00	0.81	
Total	72.98%	90.71%	83.36%	59.58%	77%
Forbs					
Milkvetch (*Astragalus*)	0.00	0.30	0.07	0.57	
Buckwheat (*Eriogonum*)	0.00	2.45	0.07	4.20	
Lupine (*Lupinus*)	0.31	1.10	1.84	0.93	
Phlox (*Phlox*)	22.95	2.45	8.01	19.58	
Mullein (*Verbascum*)	0.00	0.10	0.00	0.00	
Unknown forb	0.00	0.00	0.00	0.11	
Total	23.26%	5.40%	9.99%	25.39%	16%
Shrubs					
Sagebrush (*Artemisia*)	0.00	0.50	0.36	10.08	
Saltbush (*Atriplex*)		0.20	0.60	0.07	0.45
Rabbitbrush (*Chrysothamnus*)	0.00	0.00	0.07	0.00	
Winterfat (*Eurotia lanata*)	3.85	3.08	1.46	3.70	
Prickly phlox (*Leptodactylon pungens*)	0.00	0.00	4.55	0.11	
Total	4.05%	3.59%	6.51%	14.35%	7% 100%

Source: Hansen, Richard M., *Report of Microhistological Estimates of Ruminant Food Habits of Deer, Elk, Horses, Cattle and Antelope in the Challis Planning Unit.* Special Report, 1975.

Appendix L: Resource Studies

Item 1: Summary of Studies of the Challis Resource Area

This appendix item summarizes most of the past and present resource studies, inventories, surveys and research activities conducted within the Challis Resource Area. Major headings include: Upland Habitat, Riparian Habitat, Aquatic Habitat/Fisheries, Forest Resources, Cultural Resources, Wildlife, Climate, and Miscellaneous References. This summary of studies is in *addition* to the list of References contained in the PRMP/FEIS, Volume 2. Except for the studies listed under "Cultural Resources", the studies mentioned in this appendix item are available for review at the Challis Resource Area office in Salmon, Idaho.

Upland Habitat

- 145 upland nested frequency plots, permanently located on 45 allotments.
- 107 3' x 3' photo plots located on 39 allotments.
- Two established vigor studies on one allotment, utilizing fenced exclosures as comparative controls.
- Yearly utilization transects and utilization pattern mapping.
- Wild horse dietary studies (**Note:** The results of these studies are summarized in *Appendix K, Item 1*).
- Annual (since 1972) wild horse counts through aerial surveys.
- Site-specific and landscape inventories of special status plant species. (**Note:** The general distribution of special status plant species is presented on *Map 38*.)
- Site-specific inventories of noxious weed populations. (**Note:** The general distribution of known noxious weeds infestations is shown on *Map 28*.)
- Rangeland inventories, as listed below:

Year	Type	Purpose	# Allotments	# Acres	Planning Unit
1977	ESI(mod) [1]	Range Condition	22	331,163	Challis
1979	SVIM [2]	Range Condition	27	342,559	Ellis-Pahsimeroi
1981	SVIM [2]	Range Condition	12	118,845	Mackay
1994	ESI [1]	Ecological-Seral	1	79,298	Challis
1995	ESI [1]	Ecological-Seral	2	81,675	Challis

[1] Ecological Site Inventory
[2] Soil-Vegetative Inventory Method

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Riparian Habitat

- 50 permanent study sites on 26 perennial creeks within 24 allotments.
- Permanently stacked photo points on an additional 7 perennial creeks.
- Additional photo series established on Road Creek (1987), Sage Creek (1988), North Fork Sage Creek (1988), Horse Basin Creek (1988), Little Anderson Ranch (1980), Corral Creek (1988), and Burnt Creek (1984), each with multiple permanent photo points.
- Summit Creek Exclosure Stream Study, established in 1975.
- Riparian vegetation/hydrologic inventory on 128 miles of perennial streams in 1994-1995.
- Bursik, R.J. 1994. *Field survey of plant communities at Thousand Springs/Chilly Slough, Custer County, Idaho.* Unpublished report prepared for The Nature Conservancy, Ketchum, Idaho. 20 pp.

Aquatic Habitat/Fisheries

- 38 permanent study sites on 20 perennial streams located on 15 allotments.
- Fish distribution surveys performed on 45 streams since 1994. (**Note:** Fish distribution data are summarized in Appendix C, Item 1).
- Fish habitat condition inventories have been performed on 21 perennial streams.
- End-of-Year Report to National Marine Fisheries Service for Endangered Species Act Section 7 Consultation Compliance. Annual reports from 1993 to present.
- Aquatic benthic macroinvertebrate monitoring reports from USDI - BLM Aquatic Ecosystem Laboratory, Fisheries and Wildlife Department, Utah State University, Logan, Utah. Annual reports from 1993 to present.
- Water temperature profiles for streams located in the Challis Resource Area. Annual summaries since 1995.

Forest Resources

- Timber Production Capability Classification (TPCC) inventory of 1984, and 1996 updates with maps and field forms.
- Yield and allowable sale quantity (ASQ) calculation databases (Lotus software).

Cultural Resources (**Note:** This information is not available for public review.)

- Broadscale Class II inventory performed as a random sample encompassing the entire Challis Resource Area, 1976-1979.
- Site-specific Class III inventories; ongoing as needed.
- Miscellaneous site-specific archaeological excavations.

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Wildlife

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- Small mammal trapping data.
- Nongame bird transects. 1988, 1989, 1990.
- Big game browse form class measurements. 1977-1980.
- Winter elk utilization data - bluebunch wheatgrass, Willow Creek Summit elk winter range. 1992.
- Big game winter range maps.
- Big game pellet group transect data.
- Bighorn sheep vegetative trend studies.
- Sage grouse lek monitoring data - 1970-1997.
- 1977 Raptor Cliff Nest Site Inventory.
- Big Game Winter Range Surveys, 1989, 1992, 1994, 1996. Idaho Department of Fish and Game. Older survey data also available.

Climate

- 31 precipitation gauges scattered throughout the Resource Area are maintained and read quarterly each year to determine annual and growing season precipitation.
- Three National Oceanographic Aeronautics Administration (NOAA) climate stations (Challis, Chilly, Mackay Ranger Station) are utilized for regional climate data.
- One RAWS (Remote Area Weather Station) site is monitored and utilized for precipitation, temperature, and wind data.

Miscellaneous References

- Custer/Lemhi Soil Survey, Natural Resources Conservation Service (in publication).
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Note: In addition to the literature citations and other references listed below, many planning and decisional documents were used to develop the Challis RMP (see Draft RMP/EIS, *Table 1-1*, pp. 14-16). A list of relevant law, regulation, and policy for each resource/program in the Challis Resource Area is provided at the beginning of each resource/program description in ***Chapter 3*** (see Proposed RMP/Final EIS, pp. 189-328). An expanded description of legislation relevant to the Challis RMP is provided in *Appendix E, Item 1*, pp. 638-643. Appendix L, Item 1, pp. 668-670, summarizes the past and present resource studies, inventories, surveys, and research activities within the Challis Resource Area; those resource studies are in addition to the references listed below.

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